NOTICES OF FINAL RULEMAKING

The Administrative Procedure Act requires the publication of the final rules of the state's agencies. Final rules are those which have appeared in the *Register* first as proposed rules and have been through the formal rulemaking process including approval by the Governor's Regulatory Review Council or the Attorney General. The Secretary of State shall publish the notice along with the Preamble and the full text in the next available issue of the *Register* after the final rules have been submitted for filing and publication.

NOTICE OF FINAL RULEMAKING

TITLE 7. EDUCATION

CHAPTER 2. STATE BOARD OF EDUCATION

PREAMBLE

1. Sections Affected **Rulemaking Action**

R7-2-312 New Section

2. The specific authority for the rulemaking, including both the authorizing statute (general) and the statutes the rules are implementing (specific):

Authorizing statute: A.R.S. § 15-203(A)

Implementing statute: A.R.S. § 15-203(A)(28)

3. The effective date of the rules:

May 10, 2003

4. A list of all previous notices appearing in the Register addressing the final rule:

Notice of Rulemaking Docket Opening: 7 A.A.R. 5186, November 16, 2001

Notice of Proposed Rulemaking: 8 A.A.R. 2202, May 24, 2002

5. The name and address of agency personnel with whom persons may communicate regarding the rule:

Name: Christy Farley, Executive Director

Address: 1535 W. Jefferson, Room 418
Phoenix, AZ 85007

Telephone: (602) 542-5057

Fax: (602) 542-3046

6. An explanation of the rule, including the agency's reasons for initiating the rule:

The State Board of Education is proposing to add new rule, R7-2-312, to implement House Bill 2549 passed by the legislature in 1999, amending A.R.S. § 15-203(28). The law, as amended, requires the State Board of Education to adopt rules that provide for the presentation of an honorary high school diploma to a person who has never obtained a high school diploma and who (a) is at least 65 years of age; (b) currently resides in Arizona; (c) provides documented evidence from the Arizona Department of Veterans Services that the person enlisted in the armed forces of the United States before completing high school in a public or private school, and (d) was honorably discharged from service with the armed forces of the United States.

7. A reference to any study relevant to the rule that the agency reviewed and either proposes to rely on in its evaluation of or justification for the rule or proposes not to rely on in its evaluation of or justification for the rule, where the public may obtain or review each study, all data underlying each study, and any analysis of each study and other supporting material:

None

8. A showing of good cause why the rule is necessary to promote a statewide interest if the rule will diminish a previous grant of authority of a political subdivision of this state:

Not applicable

9. The summary of the economic, small business and consumer impact:

There will be no significant economic or small business impact related to this rule. Schools issuing high school diplomas pursuant to this rule may incur minimal costs associated with mailing the diploma. The Department of Education may incur minimal costs associated with printing a supply of diplomas to be made available to the issuing schools.

10. A description of the changes between the proposed rules, including supplemental notices, and final rules (if applicable):
Not applicable

11. A summary of the principal comments and the agency response to them:
No comments were presented to the Board.

12. Any other matters prescribed by statute that are applicable to the specific agency or to any specific rule or class of rules:
Not applicable

13. Incorporations by reference and their location in the rules:
None

14. Was this rule previously made as an emergency rule?
No

15. The full text of the rule follows:

TITLE 7. EDUCATION

CHAPTER 2. STATE BOARD OF EDUCATION

ARTICLE 3. CURRICULUM REQUIREMENTS AND SPECIAL PROGRAMS

Section
R7-2-312. ~~Repealed~~ Honorary High School Diploma

ARTICLE 3. CURRICULUM REQUIREMENTS AND SPECIAL PROGRAMS

R7-2-312. ~~Repealed~~ Honorary High School Diploma

A. An honorary high school diploma shall be provided to individuals who have never obtained a high school diploma and that meet each of the following requirements:
1. Is at least sixty-five years of age;
2. Currently resides in Arizona;
3. Provides documented evidence from the Arizona department of veterans' services that they were enlisted in the armed forces of the United States before completing high school in a public or private school; and
4. Was honorably discharged from service with the armed forces of the United States.

B. All high schools shall provide for the presentation of an honorary high school diploma to an individual eligible pursuant to subsection (A). The individual shall not be required to reside within the school boundaries.

NOTICE OF FINAL RULEMAKING

TITLE 12. NATURAL RESOURCES

CHAPTER 1. RADIATION REGULATORY AGENCY

PREAMBLE

1. Sections Affected	**Rulemaking Action**
R12-1-101	Amend
R12-1-102	Amend
R12-1-103	Amend
R12-1-104	Amend
R12-1-105	Amend
R12-1-106	Amend
R12-1-403	Amend
R12-1-419	Amend
R12-1-423	Amend
R12-1-425	Amend
R12-1-434	Amend
Appendix A	Amend
R12-1-501	Repeal
R12-1-501	New Section

R12-1-514	New Section
R12-1-535	New Section
R12-1-541	Amend
R12-1-542	New Section
Article 7	Amend
R12-1-703	Amend
R12-1-704	Amend
R12-1-707	Amend
R12-1-714	Amend
R12-1-717	Amend
R12-1-718	Amend
R12-1-1302	Amend
R12-1-1306	Amend
R12-1-1501	New Section
R12-1-1505	Amend
R12-1-1506	Amend
R12-1-1507	Amend
R12-1-1508	Amend

2. The specific authority for the rulemaking, including both the authorizing statute (general) and the statutes the rules are implementing (specific):

Authorizing statute: A.R.S. § 30-654(B)

Implementing statutes: A.R.S. §§ 30-657, 30-672, 30-673, and 30-683

3. The effective date of the rules:

May 9, 2003

4. A list of all previous notices appearing in the Register addressing the final rules:

Notice of Rulemaking Docket Opening: 6 A.A.R. 4835, December 29, 2000

Notice of Rulemaking Docket Opening: 7 A.A.R. 3051, July 13, 2001

Notice of Rulemaking Docket Opening: 7 A.A.R. 4097, September 14, 2001

Notice of Rulemaking Docket Opening: 7 A.A.R. 5448, December 7, 2001

Notice of Proposed Rulemaking: 7 A.A.R. 5585, December 21, 2001

Notice of Proposed Rulemaking: 7 A.A.R. 5764, December 28, 2001

Notice of Public Information: 8 A.A.R. 2762, June 28, 2002

5. The name and address of agency personnel with whom persons may communicate regarding the rules:

Name: Daniel H. Kuhl

Address: Arizona Radiation Regulatory Agency
4814 S. 40th Street
Phoenix, AZ 85040

Telephone: (602) 255-4845, ext. 233

Fax: (602) 437-0705

E-mail: dkuhl@arra.state.az.us

6. An explanation of the rules, including the agency's reasons for initiating the rules:

Introductory Statement: Many of the changes are the result of deficiencies in Arizona's rules that become apparent when comparing them to comparable Nuclear Regulatory Commission (NRC) and other federal regulations. Many years ago Arizona signed an Agreement with the NRC to enforce Arizona's radiation regulatory program according to NRC standards. New requirements added to Articles 4 and 5 are made for this reason. Other changes are made to integrate into Article 5 the federal standards for baggage inspection systems that use x-rays. Article 7 is being amended to establish whom may receive radiopharmaceuticals from a nuclear pharmacy and whom is authorized to assist in brachytherapy procedures. With the many changes described here and the Agency's previous rulemaking in RMP-0052, the license categories and associated definitions and fees in Article 13 are being amended. A single small fee is being added with no fee increases noted. Lastly, Articles 1 and 15 underwent a five-year review in June of 2001. Only minor changes are noted as a result of this review.

Article 1: Portions of some of the rules are deleted because the language is repetitive and will aid in making these rules more concise.

Article 4: R12-1-403 is amended to add new definitions that will aid in the understanding of the updated respiratory safety standards in R12-1-425. R12-1-423 is being amended to meet current federal standards for

process and other engineering controls. R12-1-419 is amended to list all of the rules requiring the use of personnel monitoring. Hopefully, this amendment will alleviate the need to search through all of the rules to determine if a particular group of radiation workers will need personnel monitoring.

Article 5: New definitions are added to R12-1-501 that will help the regulated community understand the new baggage inspection system rules in R12-1-542 and additional new rules planned for Rulemaking, Docket No. RMP-0056. The radiation exposure standards are expanded to include source storage containers and source changers in R12-1-514. R12-1-535 is a new rule added at the request of the NRC that will require the Agency be notified of any radiography incident that meets the specifications described in the rule. R12-1-541 is amended to add a safeguard against ground faults; and R12-1-542 is a new rule that specifically addresses concerns associated with the operation of baggage inspection systems.

Article 7: R12-1-704 is being amended to delineate physicians who are authorized to receive radiopharmaceuticals from a nuclear pharmacy. R12-1-714, R12-1-717, and R12-1-718 are being amended to provide the minimum qualifications that must be met by persons performing physics procedures before patient brachytherapy.

Article 13: R12-1-1302 and R12-1-1306 are being amended to reflect changes made in RMP-0052, recently described in the *Register*, and other changes described elsewhere in this rulemaking. These changes include revision of the nonionizing license category system and the addition of a new registration fee for Class II surgical devices.

Article 15: As previously noted, the changes to this Article are made as a result of a recent five-year review. Most of the changes are made in an effort to keep Arizona abreast of current federal transportation standards.

7. A reference to any study relevant to the rule that the agency reviewed and either proposes to rely on in its evaluation of or justification for the rule or proposes not to rely on in its evaluation of or justification for the rule, where the public may obtain or review each study, all data underlying each study, and any analysis of each study and other supporting material:

None

8. A showing of good cause why the rules are necessary to promote a statewide interest if the rules will diminish a previous grant of authority of a political subdivision of this state:

Not applicable

9. The summary of the economic, small business, and consumer impact:

The changes proposed for Article 1 should not pose a financial burden for radiation users. The changes are made in an attempt to update and simplify existing definitions.

The new respiratory requirements added to Article 4 will not affect current radioactive material users in Arizona. In the last 20 years only one licensee has had to use respiratory protection systems, and this was for the decommissioning of a uranium recovery facility that lasted only a few months. R12-1-425 is amended to require the use of respiratory equipment that reflects state-of-the-art technology. The update includes incorporating by reference the major elements of an acceptable respiratory protection program, including guidance on respirator selection, training, and fit testing, and assigned protection factors. The new rules are less prescriptive without reducing worker protection. Because respiratory protection programs are already required and programs must be periodically reviewed and personnel kept abreast of safe operations, the Agency believes the suggested changes will not impose any significant increase in operating costs.

R12-1-434 is amended to reference the authority to store some radioactive material waste in R12-1-438, containing radioactive material with a half-life of less than 120 days for decay. This authorization has been offered to licensees for a number of years as a license condition. Because the authorization affects so many licensees, it is being made into a rule. The rule will aid generators of the majority of radioactive waste laboratories, universities, and medical facilities.

Although there are a number of changes proposed in Article 5, there is little cost associated with them. The majority of changes are for clarification purposes. The new equipment standards have been in effect nationally for quite some time, making it very difficult for radiographers to obtain equipment that does not meet the proposed standards.

The new equipment standards in R12-1-514 should not impose any increased costs to radiography business because the industry is limited to a number of suppliers that are regulated by the federal government. Therefore, it would be unlikely that an Arizona licensee could purchase unacceptable equipment. The regulations are needed to prevent the use of home-made or modified older equipment that does not meet the new standards.

The amendment to R12-1-703 should actually decrease cost, or more correctly stated, allow the applicant to begin their licensed operation more expeditiously because the applicant will not be confronted with delay often imposed on a new operation while a hospital is located that will accept the licensee's radioactive patients. The NRC dropped this requirement a number of years ago. R12-1-704 is being amended to ensure that only qualified physicians receive radioactive material for administration to patients. This requirement has been implied by the radioactive material license, but has not been directly stated in rule. The Agency has enforced the NRC physician training standards, which have been available to the medical community for about 30 years in federal regulations. A simple language

change to R12-1-707 will clarify the authorized user directive requirement, which is a key component of a medical quality management program. Costs to any affected party should not be high because of the proposed changes to this rule. The medical physicist training and experience standards being introduced into R12-1-714, R12-1-717, and R12-1-718 are not new. These standards are already required for physicists that assist in other medical procedures regulated by the Agency. Because the affected physicists are often one-in-the-same, with regard to who performs the various medical physics procedures authorized by a radioactive material license, few physicists should be affected by this rule amendment. Therefore, little to no cost should be associated with the change. Any physicist, working in Arizona when this rule goes into effect, will be allowed to demonstrate their qualifications to the Agency if the rule standard cannot be met.

Changes to Article 13 are minimal and mainly administrative. However, there are two new registration categories that have associated fees. The fees pay for the following annual costs: registration of a photothermolysis system costs $40 and the cost to register an "Other" ionizing radiation producing machine is "full cost," which is the cost to process the application after it is submitted into the Agency for review and any other costs incurred by the Agency in determining the adequacy of the safety program. This second category is not new. It is simply separated from a similar nonionizing category that is now treated separately in this rule package.

Article 15 is being updated to make it compatible with Federal Department of Transportation regulations for transporting hazardous materials. There are no new costs associated with the revised rules because there are no significant changes associated with the update.

10. A description of the changes between the proposed rules, including supplemental notices, and final rules:

The changes described here are not substantial changes. Therefore, it was not necessary to issue a supplemental notice describing the changes. The following changes are a result of final reviews by the Agency staff and the G.R.R.C.

1. A number of changes associated with proposed rules are being removed from this rule package because the proposed changes are affected by new regulatory standards imposed on the Agency by the NRC that must be adopted by the Agency in the future. These NRC compatibility issues were not discovered until after this rulemaking was initiated. The needed changes will be proposed in the future rulemaking packages. Some of the affected rules that have been removed from this package and moved to RMP-0056 are R12-1-319, R12-1-502, R12-1-521, and R12-1-533.
2. Because some of the incorporations were not listed in the preamble of the proposed rules, some additional incorporation updates will be noted in this final report. The most current documents referenced were published in 2001 by the U.S. Government Printing Office.
3. R12-1-101 is revised to include the original reference to the NRC Agreement signed by the Agency and to format the rule as originally intended. The intent of this rule is unchanged.
4. In many of the new respiratory related definitions in R12-1-403, language in the definitions is changed for clarification purposes from "respirator" and "respiratory protection equipment" to "respiratory protective equipment" which is defined in Article 4.
5. Some confusion exists because the amendment to R12-1-419 was not listed in the proposed rule changes in RMP-0054 (this package). It was listed with other rule changes in rulemaking package RMP-0052, which has been opened in a timely manner and is eligible for the changes listed in this package and described in Section 11 of this report. Also, note that R12-1-419(B)(4) has been deleted because the regulation is no longer needed. There aren't any medical x-ray users in the regulated community using the x-ray devices regulated by the deleted subsection.
6. R12-1-542 is revised to include language changes that focuses the regulation directly on the registrant that uses baggage screening devices. The third-person style originally used in this rule has been eliminated without changing the intent of the rule.
7. R12-1-704 is revised by introducing language that better describes the pharmacy licensee being regulated. The language is authorized in R4-23-681, and does not change the intent of the rule.
8. Language and format changes are introduced into R12-1-714(D), R12-1-717(I), and R12-1-718(I). The changes have not affected the intent of these rules in expanding the definition of "qualified expert" in Article 1 to meet the needs of licensees using the services of individuals involved in the types of radiation therapy regulated in these rules.
9. R12-1-1302(F) is created to categorize nonionizing radiation devices from ionizing devices. Additional review determined that a number of changes were needed to ensure the many subsections are listed in similar fashion. The intent of this rule has not been diminished with these editorial changes and the categories continue to coincide with the licensing requirements in R12-1-1401.
10. A number of the redesignated nonionizing categories in R12-1-1306 are changed to clarify each category listing. These changes are in the "F" section of the list and will not change the intent of the listed categories. Also, a proposed fee collection by the Agency for taking a radiographer certification exam is deleted because the Agency will not be testing candidates as previously intended. The Agency will be using a third party testing service.

11. The incorporated reference 39 CFR was listed in the proposed rule but was not underlined to indicate it is new language. A review of the existing rule indicates it is not present at this time. The intent in the proposed rule was to add it as a new reference.

12. The registration fee for a Class II surgical device is incorrectly stated in R12-1-1306. It should be listed at $40, rather than $50, as listed in the proposed rule. This $40 fee is compatible with other fees assessed for registration of other nonionizing devices.

13. The definition for "Regulations of the US Department of Transportation" in R12-1-102 and the amendment to R12-1-1504 have been deleted from the package because of inconsistent incorporated references. The rules either listed incorrect federal regulations or the dates of the incorporated reference are inconsistent with other listed federal regulation references listed in the proposed rules. The rules will be amended in the near future incorporating correct references. Also, R12-1-1506 is amended so that only active and pertinent federal transportation regulations are referenced in the rule.

14. The quality assurance testing of Type B packages has been removed from R12-1-1507(C) because it is unnecessary for the Agency to duplicate a requirement of the federal government already incorporated by reference. However, the review of the records of the quality assurance program will remain in subsection (D).

11. A summary of all of the comments made regarding the rule and the agency response to them:

The following comments were received during the afternoon session of the February 27th public hearing. The following format is used in this section: Comment or criticism, new (final) wording, if applicable, followed by old (proposed) wording, followed by Agency's response to the comment or criticism. Because Article 11 is being removed the comments received concerning it may not follow this format.

1. The afternoon comments begin on page 56 of hearing transcript. The changes in this section follow the order of comments in the meeting transcript.
   Comment: In R12-1-714(D), The reference to R12-1-716(G) is not acceptable physicist training for all modalities of radiation therapy. R12-1-717(I) and R12-1-718(I) need a similar change in the language.

(Final)

D. A qualified expert who meets the following training and experience requirements shall perform all physics procedures necessary to prepare a patient for a therapeutic application of radiation. The qualified expert shall:

1. Be certified by the American Board of Radiology in: Therapeutic Radiological Physics, Radiological Physics, Roentgen-Ray and Gamma-Ray Physics, or X-ray and Radium Physics; or the American Board of Medical Physicists in Radiation Oncology Physics; or
2. Have the following minimum training and experience:
   a. A Master's or Doctor's degree in physics, biophysics, radiological physics, or health physics;
   b. One year of full-time training in therapeutic radiological physics; and
   c. One year of full-time experience at a radiotherapy facility, including personal experience calibrating brachytherapy radiation sources and planning associated patient treatment.
3. A candidate who does not meet the standards in subsections (D)(1) and (D)(2), may request a license amendment for an exemption from these training or experience requirements in accordance with A.R.S. § 30-654(B)(13). The request shall include the name of the proposed qualified expert, a description of the individual's training and experience, including information similar to that specified in subsection (D)(2), and a written endorsement, based on personal knowledge of the individual's qualifications, by a physicist certified by the American Board of Radiology in one of the specialties listed in subsection (D)(1).

(Proposed)

D. All physics procedures performed in preparation for application of radiation to a patient for therapy purposes shall be performed by a qualified expert meeting the training qualifications in R12-1-716(G).

R12-1-717(I)

(Final)

I. A qualified expert who meets the following training and experience requirements shall perform all physics procedures necessary to prepare a patient for a therapeutic application of radiation. The qualified expert shall:

1. Be certified by the American Board of Radiology in: Therapeutic Radiological Physics, Radiological Physics, Roentgen-Ray and Gamma-Ray Physics, or X-ray and Radium Physics; or the American Board of Medical Physicists in Radiation Oncology Physics; or
2. Have the following minimum training and experience:
   a. A Master's or Doctor's degree in physics, biophysics, radiological physics, or health physics;
   b. One year of full-time training in therapeutic radiological physics; and

c. One year of full-time experience at a radiotherapy facility, including personal experience calibrating brachytherapy radiation sources and planning associated patient treatment.

3. A candidate who does not meet the standards in subsections (I)(1) and (I)(2), may request a license amendment for an exemption from these training or experience requirements in accordance with A.R.S. § 30-654(B)(13). The request should include the name of the proposed qualified expert, a description of the individual's training and experience, including information similar to that specified in subsection (I)(2), and a written endorsement, based on personal knowledge of the individual's qualifications, by a physicist certified by the American Board of Radiology in one of the specialties listed in subsection (I)(1).

(Proposed)

I. All physics procedures performed in preparation for application of radiation to a patient for therapy purposes shall be performed by a qualified expert meeting the training qualifications in R12-1-716(G).

R12-1-718(I)

(Final)

I. A qualified expert who meets the following training and experience requirements shall perform all physics procedures necessary to prepare a patient for a therapeutic application of radiation. The qualified expert shall:

1. Be certified by the American Board of Radiology in: Therapeutic Radiological Physics, Radiological Physics, Roentgen-Ray and Gamma-Ray Physics, or X-ray and Radium Physics; or the American Board of Medical Physicists in Radiation Oncology Physics; or
2. Have the following minimum training and experience:
   a. A Master's or Doctor's degree in physics, biophysics, radiological physics, or health physics;
   b. One year of full-time training in therapeutic radiological physics; and
   c. One year of full-time experience at a radiotherapy facility, including personal experience calibrating a gamma stereotactic radiosurgery system and planning associated patient treatment.
3. A candidate who does not meet the standards in subsections (I)(1) and (I)(2), may request a license amendment for an exemption from these training or experience requirements in accordance with A.R.S. § 30-654(B)(13). The request should include the name of the proposed qualified expert, a description of the individual's training and experience, including information similar to that specified in subsection (I)(2), and a written endorsement, based on personal knowledge of the individual's qualifications, by a physicist certified by the American Board of Radiology in one of the specialties listed in subsection (I)(1).

(Proposed)

I. All physics procedures performed in preparation for application of radiation to a patient for therapy purposes shall be performed by a qualified expert meeting the training qualifications in R12-1-716(G).

Response: All changes are made as recommended.

2. R12-1-403. Definitions"Disposable respirator"

Comment: The use of the term "sorbent exhaustion" is not appropriate when referring to respiration action that is no longer available to the person seeking protection by using the respirator.

(Final)

"Disposable respirator" means respiratory protective equipment for which maintenance is not intended and that is designed to be discarded after excessive breathing resistance, sorbent depletion, physical damage, or end-of-service-life renders it unsuitable for use. Examples of this type of device include a disposable half-mask respirator or a disposable, escape-only, self-contained breathing apparatus (SCBA).

(Proposed)

"Disposable respirator" means a respirator for which maintenance is not intended and that is designed to be discarded after excessive breathing resistance, sorbent exhaustion, physical damage, or end-of-service-life renders it unsuitable for use. Examples of this type of respirator are a disposable half-mask respirator or a disposable escape-only self-contained breathing apparatus (SCBA).

Response: The change is made as recommended.

3. It is believed that in some fluoroscopic situations the requirement for personnel monitoring in R12-1-419(B)(4)(e) is unnecessary and wasteful of available resources.
   Action:

(Final)

e. Individuals operating open beam fluoroscopic systems and ancillary personnel working in the room when the fluoroscopic system is in use, except when relieved of this requirement by license or registration condition under A.R.S. § 30-654(B)(13);

(Proposed)

e. Individuals operating open beam fluoroscopic systems and ancillary personnel working in the room when the fluoroscopic system is in use;

Agency response: The Agency agrees there should be method available to exempt a licensee or registrant from this safety system if a fluoroscopic system is used in such a manner that personnel monitoring is not necessary for minimally exposed workers.

4. R12-1-501. Definitions "Annual refresher safety training" and "Collimator"
   Comment: The word "observed" should be replaced with "occurred." This verb does not agree with the noun in the sentence.

(Final)

"Annual refresher safety training" means a review conducted or provided by the licensee for its employees on radiation safety aspects of industrial radiography. The review shall include, as applicable, the results of internal inspections, new procedures or equipment, new or revised state rules, accidents or errors that have occurred, and provide opportunities for employees to ask safety questions.

(Proposed)

"Annual refresher safety training" means a review conducted or provided by the licensee for its employees on radiation safety aspects of industrial radiography. The review may include, as appropriate, the results of internal inspections, new procedures or equipment, new or revised state rules, accidents or errors that have observed, and should also provide opportunities for employees to ask safety questions.

Comment: In the definition of "collimator" located in R12-1-501 "cranked" is a field term used for "positioning the radiation source." There are some users that may not know the meaning of this term.

(Final)

"Collimator" means a radiation shield that is placed on the end of the guide tube or directly onto a radiographic exposure device to restrict the size of the radiation beam when the sealed source is positioned to make a radiographic exposure.

(Proposed)

"Collimator" means a radiation shield that is placed on the end of the guide tube or directly onto a radiographic exposure device to restrict the size of the radiation beam when the sealed source is cranked into position to make a radiographic exposure.

Response: The definition changes are made as recommended.

5. R12-1-542(A)
   Comment: The purpose for the surveillance should be stated in the rule.

(Final)

A. For x-ray systems designed to screen carry-on baggage at airlines, railroads, bus terminals, or similar facilities, a registrant shall station the operator at the control area in a position that permits surveillance of the ports and doors during generation of x-radiation to prevent exposure to passengers and other members of the public.

(Proposed)

A. X-ray systems designed for the inspection of carry-on baggage at airlines, railroads, and bus terminals, and at similar facilities, shall provide a means to insure operator presence at the control area in a position which permits surveillance of the ports and doors during generation of x-radiation.

Response: The change is made as recommended.

6. The suggested changes to the radiographer "Certification Program Requirements" in Appendix A of Article 5 are not in this report because the proposed appendix is deleted from the package. Similarly R12-1-521, which contains the training requirements for radiographers, is moved to a future rulemaking package. It should be noted that the recommended changes will be made to this appendix when it is amended as part of the next package, RMP-0056.

7. Article title
   Comment: There is concern that the title of Article 7 includes veterinary services.

(New/old) ARTICLE 7. USE OF RADIONUCLIDES IN THE ~~HEALING ARTS~~ PRACTICE OF MEDICINE

Response: The Agency agrees that the heading of Article 7 is not appropriate, based on the definition of "healing arts" located in Article 1. It is believed this is not a substantive change because the intent of the current title of Article 7 was that the rules would only apply to the practice of medicine. Additionally, the revised heading will correspond with the heading of 10 CFR 35, which also regulates the use of radioactive material in medicine.

8. R12-1-1302(F)(8)

Comment: Diathermy is a limiting term applied to the use of radiofrequency devices in medicine. The term should be removed from the category description.

(Final)

8. A medical radiofrequency device registration authorizes the operation of one or more medical radiofrequency devices.

(Proposed)

8. A medical radiofrequency device registration is one authorizing the possession of one or more radiofrequency diathermy devices.

Response: The change will be made as requested. The staff agrees this term is no longer needed because the term limits the use of radiofrequency devices.

9. At the request of the Board a number of minor typographic and language changes are made. A change will only be described if there is a potential for a change in the meaning implied by the rule. Otherwise, only the rule number is listed. The following rules have some form of minor change: R12-1-101, R12-1-403 (definition of "Hood"), R12-1-1306(A), R12-1-1504(A)(1) and (2), and R12-1-1504(B), R12-1-1505(B), R12-1-1506(A)(1), and R12-1-1507(B).

10. Minor grammatical and formatting changes were made at the request of G.R.R.C. staff. The rules with the greatest changes are listed here for review, if needed: R12-1-419, R12-1-425, footnote to Appendix A of Article 4.
    Two definitions are removed from R12-1-501 because they are not used in the current or proposed rules. They refer to language used in Appendix A, which is planned for future rulemaking in RMP-0056. These terms are "independent certifying entity" and "certifying entity." Other similar changes involving language and content, not affecting the intent of the rules, are described in Section 10.

11. The following comments describe why Article 11 contains unnecessary regulations that should be removed from the rule package and why the package should be made available for additional public and industry input.
    A. The first letter was received from the Arizona Mining Association (AMA). There is concern for many issues relative to the new rules regulating technically enhanced naturally occurring radioactive material (TENORM) proposed for Article 11. The AMA requests withdrawal of the proposed rules to allow the mining industry to work with the Agency to better understand the Agency's concerns and to better asses the impact of the new rules on all affected parties, and to allow more time to provide the Agency with meaningful comments in developing appropriate rules.
       Agency response: The proposed rules were developed from the Conference of Radiation Control Program Directors Suggested State Regulations. These rules are being used in a number of states across the country. Also, Aubrey Godwin, the Director of the Agency, believes that participation of the AMA is essential if the rules are going to be successful in regulating the mining industry. Mr. Godwin has contacted the AMA to schedule a meeting between Agency regulators and industry affected shareholders.
    B. Representatives of Radiation Safety Engineering stated that the proposed rules in Article 11 are unnecessary. It is further stated that there is no epidemiological evidence that naturally occurring radioactive materials whether left in their

natural state or moved to another cause any harm. RSE believes the proposed rules will cause great economic harm and no human health benefit.

Agency response: The Agency disagrees with their position. It is believed that many of the processes that occur in the mining industry concentrates TENORM to a level that can be a hazard to human beings. As previously stated, these rules are being used in a number of states across the country. The proposed rules are being withdrawn for further review and input from the regulated community.

12. Any other matters prescribed by statute that are applicable to the specific agency or to any specific rule or class of rules:

The majority of the rules in Articles 4, 5, And 15 must be compatible with the Nuclear Regulatory Commission Regulations. The Agency is bound to these considerations by the Agreement between the Federal Government and the state of Arizona.

13. Incorporations by reference and their location in the rules:

Rule	Incorporation
R12-1-102. Definitions (7)	
"A_2"	10 CFR 71.137
"Certifiable cabinet x-ray system"	21 CFR 1020.40
"Certified cabinet x-ray system"	21 CFR 1010.2 and 1020.40
"Generally applicable environmental radiation standards"	40 CFR 190-191
"Major processor"	10 CFR 71.4
"Nuclear waste"	49 CFR 173.403
"Special form radioactive material"	10 CFR 71
R12-1-103	Selected portions of 49 CFR 107 and 171 through 177, 39 CFR 111.1
R12-1-434, Appendix A	10 CFR 20.1703
R12-1-703(C)(2)(a)	10 CFR 32.72
R12-1-1505(B)	49 CFR 177.848
R12-1-1506	49 CFR 171 through 180, 39 CFR 111.1
R12-1-1507(A)	10 CFR 71
R12-1-1508(B)(2)	49 CFR 172.202 and 172.203

14. Were the rules previously made as emergency rules?

No

15. The full text of the rules follows:

TITLE 12. NATURAL RESOURCES

CHAPTER 1. RADIATION REGULATORY AGENCY

ARTICLE 1. GENERAL PROVISIONS

Section
R12-1-101. Scope
R12-1-102. Definitions
R12-1-103. Exemptions
R12-1-104. Prohibited Uses
R12-1-105. ~~Units of Exposure and Dose~~ Quality Factors for Converting Absorbed Dose to Dose Equivalent
R12-1-106. Units of Activity

ARTICLE 4. STANDARDS FOR PROTECTION AGAINST IONIZING RADIATION

Section
R12-1-403. Definitions
R12-1-419. Conditions Requiring Individual Monitoring of External and Internal Occupational Dose
R12-1-423. Use of Process or Other Engineering Controls
R12-1-425. Use of Individual Respiratory Protection Equipment

R12-1-434. General Requirements for Waste Disposal
Appendix A. Assigned Protection Factors for Respirators

ARTICLE 5. INDUSTRIAL RADIOGRAPHIC OPERATIONS

Section
R12-1-501. ~~Limits on Levels of Radiation for Radiographic Exposure Devices and Storage Containers~~ Definitions
R12-1-514. ~~Repealed~~ Limits on External Radiation Levels from Storage Containers and Source Changers
R12-1-535. ~~Reserved~~ Notifications
R12-1-541. Enclosed Radiography Using X-ray Machines
R12-1-542. ~~Repealed~~ Baggage Inspection Systems

ARTICLE 7. USE OF RADIONUCLIDES IN THE ~~HEALING ARTS~~ PRACTICE OF MEDICINE

Section
R12-1-703. License for Medical Use of Radioactive Material
R12-1-704. Supervision
R12-1-707. Quality Management Program
R12-1-714. Brachytherapy
R12-1-717. High Dose Rate Remote After-loading Brachytherapy Devices
R12-1-718. Gamma Stereotactic Radiosurgery

ARTICLE 13. LICENSE AND REGISTRATION FEES

Section
R12-1-1302. License and Registration Categories
R12-1-1306. Table of Fees

ARTICLE 15. TRANSPORTATION

Section
R12-1-1501. ~~Reserved~~ Requirement for License
R12-1-1505. ~~Storing~~ Storage of Radioactive Material in Transport
R12-1-1506. Preparation of Radioactive Material for Transport
R12-1-1507. Packaging Quality Assurance
R12-1-1508. Advance Notice of ~~Transport of~~ Nuclear Waste Transportation

ARTICLE 1. GENERAL PROVISIONS

R12-1-101. Scope

A. Except as otherwise specifically provided, ~~these rules apply~~ this Chapter applies to all persons who receive, possess, use, transfer, own, or acquire any source of radiation.

B. This Chapter does not apply to ~~a~~ any person ~~to the extent such person is~~ that is subject to regulation by the Nuclear Regulatory Commission.

C. State control of source material, by-product material, and special nuclear material in quantities not sufficient to form a critical mass is subject to the provisions of the agreement between the state and the U.S. Nuclear Regulatory Commission, signed March 30, 1967, incorporated by reference in this rule and on file with the Office of the Secretary of State. ~~, and to 10 CFR 150, 1996 Edition, published January 1, 1996, incorporated by reference and on file with the Agency and the Office of the Secretary of State. These incorporations by reference contain no future editions or amendments.~~

R12-1-102. Definitions

Terms defined in A.R.S. § 30-651 have the same meanings when used in this Chapter. The following terms have the definitions ~~set forth~~ below. Additional subject specific definitions are used in other Articles. ~~only in a certain Article will be found in that Article.~~

"A_1" means the maximum activity of special form radioactive material permitted in a Type A package.

"A_2" means the maximum activity of radioactive material, other than special form radioactive material, permitted in a Type A package. These values are either listed in 10 CFR 71.137 ~~71~~, Appendix A, Table A-1, or may be derived in accordance with the procedure prescribed in 10 CFR 71.137 ~~71~~, Appendix A, 2001 ~~1996~~ Edition, published January 1, 2001 ~~1996~~, incorporated by reference and on file with the Agency and the Office of the Secretary of State. This incorporation by reference contains no future editions or amendments.

"Absorbed dose" No change

"Accelerator" No change

"Accelerator produced material" No change

"Act" No change

"Activity" No change

"Adult" No change

"Agency," or "ARRA" No change

"Agreement State" No change

"Airborne radioactive material" No change

"Airborne radioactivity area" No change

"ALARA" No change

"Analytical x-ray equipment" No change

"Analytical x-ray system" No change

"Annual" No change

"Background radiation" No change

"Becquerel" No change

"Bioassay" No change

"Brachytherapy" No change

"By-product material" No change

"Calendar quarter" No change

"Calibration" means the determination of:

The response or reading of an instrument relative to a series of known radiation values over the range of the instrument or

The strength of a source of radiation relative to a standard.

"Certifiable cabinet x-ray system" means an existing uncertified x-ray system that meets or has been modified to meet the certification requirements specified in 21 CFR 1020.40, 2001 ~~1995~~ Edition, published April 1, 2001 ~~1995~~, ~~by the Office of Federal Register, National Archives and Records Administration,~~ incorporated by reference and on file with the Agency and the Office of Secretary of State. This incorporation by reference contains no future editions or amendments.

"Certified cabinet x-ray system" means an x-ray system that has been certified in accordance with 21 CFR 1010.2, as being manufactured and assembled on or after April 10, 1975, in accordance with the provisions of 21 CFR 1020.40, both references ~~1995~~ 2001 Edition, published April 1, ~~1995~~ 2001, incorporated by reference and on file with the Agency and the Office of Secretary of State. These incorporations by reference contain no future editions or amendments.

"CFR" No change

"Chelating agent" No change

"Civil penalty" No change

"Collective dose" No change

"Committed dose equivalent" No change

"Committed effective dose equivalent" No change

"Curie" No change

"Current license or registration" means a license or registration issued by the Agency and for which the licensee has paid the license or registration fee for the ~~then~~ current year according ~~pursuant~~ to R12-1-1304.

"Deep-dose equivalent" No change

"Depleted uranium" No change

"Dose" No change

"Dose equivalent (H_T)" No change

"Dose limits" No change

"Dosimeter" No change

"Effective dose equivalent (H_E)" No change

"Effluent release" No change

"Embryo/fetus" No change

"Enclosed beam x-ray system" No change

"Enclosed radiography" No change

"Cabinet radiography" No change

"Shielded room radiography" No change

"Entrance or access point" No change

"Exhibit" No change

"Explosive material" No change

"Exposure" No change

"Exposure rate" No change

"External dose" No change

"Extremity" No change

"Fail-safe characteristics" No change

"Field radiography" No change

"Field station" No change

"Former U.S. Atomic Energy Commission (AEC) or U.S. Nuclear Regulatory Commission (NRC) licensed facilities" No change

"Generally applicable environmental radiation standards" means standards issued by the U.S. Environmental Protection Agency (EPA), 40 CFR 190 and 191, 2001 ~~1995~~ Edition, published July 1, 2001 ~~1995~~, incorporated by reference and on file with the Agency and the Office of the Secretary of State, under the authority of the Atomic Energy Act of 1954, as amended, that impose limits on radiation exposures or levels, or concentrations or quantities of radioactive material, in the general environment outside the boundaries of locations under the control of persons possessing or using radioactive material. This incorporation by reference contains no future editions or amendments.

"Gray" No change

"Hazardous waste" No change

"Healing arts" No change

"Health care institution" No change

"High radiation area" No change

"Human use" No change

"Impound" No change

"Individual" No change

"Individual monitoring" No change

"Individual monitoring device" or "individual monitoring equipment" No change

"Industrial radiography" No change

"Injection tool" No change

"Inspection" No change

"Interlock" No change

"Internal dose" No change

"Irradiate" No change

"Laser" No change

"Lens dose equivalent" No change

"License" No change

"Licensed material" No change

"Licensed practitioner" No change

"Licensee" No change

"Licensing State" No change

"Limits" No change

"Local components" No change

"Logging supervisor" No change

"Logging tool" No change

"Lost or missing licensed or registered source of radiation" No change

"Low-level waste" No change

"Major processor" means a user processing, handling, or manufacturing radioactive material exceeding Type A quantities as unsealed sources or material or exceeding four times Type B quantities as sealed sources but does not include nuclear medicine programs, universities, industrial radiographers, or small industrial programs. Type A and B quantities are defined in 10 CFR 71.4, 2001 ~~1996~~ Edition, published January 1, 2001 ~~1996~~, incorporated by reference and on file with the Agency and the Office of the Secretary of State. This incorporation by reference contains no future editions or amendments.

"Medical dose" No change

"Member of the public" No change

"MeV" No change

"Mineral logging" No change

"Minor" No change

"Monitoring" No change

"Multiplier" No change

"NARM" No change

"Normal operating procedures" No change

"Natural radioactivity" No change

"NRC" No change

"Nuclear waste" means any highway route controlled quantity (defined in 49 CFR 173.403, 2001 ~~1995~~ Edition, published October 1, 2001 ~~1995~~, incorporated by reference and on file with the Agency and the Secretary of State, containing no future editions or amendments) of source, by-product, or special nuclear material required to be in NRC approved packaging while transported to, through, or across state boundaries to a disposal site, or to a collection point for transport to a disposal site. Additional requirements associated with transportation of radioactive material can be found in Article 15.

"Occupational dose" No change

"Open beam system" No change

"Package" No change

"Particle accelerator" No change

"Permanent radiographic installation" No change

"Personnel dosimeter" No change

"Personnel monitoring equipment" No change

"Personal supervision" No change

"Pharmacist" No change

"Physician" No change

"Primary beam" No change

"Public dose" No change

"Pyrophoric liquid" No change

"Pyrophoric solid" No change

"Qualified expert" No change

"Quality Factor" No change

"Quarter" No change

"Rad" No change

"Radiation" No change

"Radiation area" No change

"Radiation dose" No change

"Radiation machine" No change

"Radiation safety officer" No change

"Radioactive marker" No change

"Radioactive material" No change

"Radioactivity" No change

"Radiographer" No change

"Radiographer's assistant" No change

"Radiographic exposure device" No change

"Registrant" No change

"Registration" No change

"Regulations of the U.S. Department of Transportation" No change

"Rem" No change

"Research and Development" No change

"Restricted area" No change

"Roentgen" No change

"Safety system" No change

"Sealed source" No change

"Shallow dose equivalent" No change

"Shielded position" No change

"Sievert" No change

"Site boundary" No change

"Source changer" No change

"Source holder" No change

"Source material" No change

"Source material milling" No change

"Source of radiation" or "source" No change

"Special form radioactive material" means radioactive material that satisfies all of the following conditions:

It is either a single solid piece or is contained in a sealed capsule that can be opened only by destroying the capsule;

The piece or capsule has at least one dimension not less than 5 millimeters (0.2 inch); and

It satisfies the test requirements specified in 10 CFR 71, 2000 ~~1996~~ Edition, published January 1, 2000 ~~1996~~, incorporated by reference in this rule and on file with the Agency and the Office of the Secretary of State. This incorporation by reference contains no future editions or amendments. A special form encapsulation designed in accordance with the U.S. Nuclear Regulatory Commission requirements in effect on June 30, 1983, and constructed prior to July 1, 1985, may continue to be used. A special form encapsulation constructed after June 30, 1985, shall meet requirements of this definition applicable at the time of its construction.

"Special nuclear material in quantities not sufficient to form a critical mass" No change

"Storage area" No change

"Storage container" No change

"Subsurface tracer study" No change

"Survey" No change

"TEDE" No change

"Teletherapy" No change

"Temporary job site" No change

"Test" No change

"These rules" No change

"Total Effective Dose Equivalent" (TEDE) No change

"Total Organ Dose Equivalent" (TODE) No change

"Unrefined and unprocessed ore" No change

"Unrestricted area" No change

"U.S. Department of Energy" No change

"Waste" No change
"Waste handling licensees" No change
"Week" No change
"Well-bore" No change
"Well-logging" No change
"Whole body" No change
"Wireline" No change
"Wireline service operation" No change
"Worker" No change
"WL" No change
"WLM" No change
"Workload" No change
"Year" No change

R12-1-103. Exemptions

A. Common and contract carriers, freight forwarders, and warehousemen who are subject to 49 CFR ~~107.103~~, 107.109, 107.111, 107.113, 171.2, 171.3, 172.200, 173.1, 173.3, 173.4, 173.401, ~~174.7,~~ 175.3, 175.5, 175.10, 176.3, 176.5, 176.11, 176.24, 176.27, and 177.801, 2000 ~~1995~~ Edition, published October 1, 2000 ~~1995~~, of the U.S. Department of Transportation, or 39 CFR 111.1 of the U.S. Postal Service, 2001 ~~1995~~ Edition, published July 1, 2001 ~~1995~~, incorporated by reference and on file with the Agency and the Office of the Secretary of State, are exempt from this Chapter. In addition, they are exempt from this Chapter to the extent that they store radioactive material, for periods of less than 72 hours, in the regular course of their carriage for another. Private carriers who are subject to the regulations of the U.S. Department of Transportation are exempt from this Chapter to the extent that they transport radioactive material. Common, contract, and private carriers who are not subject to the regulations of the U.S. Department of Transportation or the U.S. Postal Service are subject to this Chapter. The above incorporation by reference contains no future editions or amendments.

B. No change
1. No change
2. No change
3. No change
4. No change
   a. No change
   b. No change

C. No change

R12-1-104. Prohibited Uses

~~**A.** Hand-held fluoroscopic screens shall not be used.~~
~~**B.** Shoe-fitting fluoroscopic devices shall not be used.~~
~~**C.** Sources of ionizing radiation shall not be used for the purpose of screening or inspecting individuals for concealed weapons, hazardous materials, stolen property, illegal goods or contraband, except as specifically authorized by law.~~
~~**D.** Deliberate exposure of an individual to the useful beam of an ionizing radiation machine or to a radiation beam from a non-ionizing device, known to be harmful to human tissue, for training or demonstration purposes shall not be permitted unless there is also a medical or dental indication for the exposure and the exposure is prescribed by a licensed practitioner.~~

A. A person shall not use the following fluoroscopic devices:
1. Hand-held fluoroscopic screens.
2. Shoe-fitting fluoroscopic devices.

B. Except as specifically authorized by law, a person shall not use sources of ionizing radiation for the purpose of screening an individual or inspecting an individual for:
1. Concealed weapons,
2. Hazardous materials,
3. Stolen property, or
4. Contraband.

C. Unless there is a medical or dental indication for the exposure and the exposure is prescribed by a licensed practitioner, a person shall not deliberately expose an individual to the useful beam from:
1. An ionizing radiation machine; or
2. A non-ionizing radiation source, having a radiation beam known to be harmful to human tissue.

R12-1-105. ~~Units of Exposure and Dose~~ Quality Factors for Converting Absorbed Dose to Dose Equivalent

~~**A.** As used in these rules, the unit of "exposure" is [See definition in R12-1-102(41)].~~

~~**B.** As used in these rules, the units of "dose" are.~~

~~1. Gray is: [See definition in R12-1-102(53)].~~
~~2. Rad is: [See definition in R12-1-102(110)].~~
~~3. Rem is: [See definition in R12-1-102(124)].~~
~~4. Sievert is: [See definition in R12-1-102(132)].~~

~~**C.**~~**A.** As used in these rules, the quality factors for converting absorbed dose to dose equivalent are shown in Table I.

TABLE I
QUALITY FACTORS AND ABSORBED DOSE EQUIVALENCIES

TYPE OF RADIATION	Quality Factor (Q)	Absorbed Dose Equal to a Unit Dose Equivalent[a]
X, gamma, or beta radiation and high-speed electrons		1
Alpha particles, multiple-charged particles, fission fragments, and heavy particles of unknown charge	20	0.05
Neutrons of unknown energy	10	0.1
High-energy protons	10	0.1

[a]The absorbed dose in gray is equal to 1 Sv or the absorbed dose in rad is equal to 1 rem.

~~**D.**~~**B.** No change

R12-1-106. Units of Activity

For purposes of these rules, activity is expressed in the SI unit of becquerel (Bq) or in the special unit of curie (Ci), or their multiples, or disintegrations or transformations per unit of time. The definitions for these units are located in R12-1-102.

~~1. One becquerel (Bq) = (See definition in R12-1-102).~~
~~2. One curie (Ci) = (See definition in R12-1-102).~~

ARTICLE 4. STANDARDS FOR PROTECTION AGAINST IONIZING RADIATION

R12-1-403. Definitions

"Air-purifying respirator" means respiratory protective equipment with an air-purifying filter, cartridge, or canister that removes specific air contaminants by passing ambient air through the air-purifying element.

"ALI" No change

"Assigned protection factor (APF)" means the expected workplace level of respirator protection that would be provided by a properly functioning respirator or a class of respirators to properly fitted and trained users. Operationally, the inhaled concentration can be estimated by dividing the ambient airborne concentration by the APF.

"Atmosphere-supplying respirator" means respiratory protective equipment that supplies the equipment user with breathing air from a source independent of the ambient atmosphere, and includes supplied-air respirators (SARs) and self-contained breathing apparatus (SCBA) units.

"Class" No change

"Critical group" means the group of individuals reasonably expected to receive the greatest exposure to residual radioactivity for any applicable set of circumstances.

"DAC" No change

"DAC-hour" No change

"Declared pregnant woman" No change

"Demand respirator" means an atmosphere-supplying respiratory protective equipment that admits breathing air to the face piece only when a negative pressure is created inside the face piece by inhalation.

"Deterministic effect" [see "nonstochastic effect"] No change

"Disposable respirator" means respiratory protective equipment for which maintenance is not intended and that is designed to be discarded after excessive breathing resistance, sorbent depletion, physical damage, or end-of-service-life renders it unsuitable for use. Examples of this type of device include a disposable half-mask respirator or a disposable, escape-only, self-contained breathing apparatus (SCBA).

"Dosimetry processor" No change

"Filtering face piece (dust mask)" means a particulate respirator that operates under a negative pressure with a filter as an integral part of the face piece or with the entire face piece composed of the filtering medium, not equipped with elastomeric sealing surfaces and adjustable straps.

"Fit factor" means a quantitative estimate of the fit of a particular respirator to a specific individual, and typically estimates the ratio of the concentration of a substance in ambient air to its concentration inside the respirator when worn.

"Fit test" means the use of protocol to qualitatively or quantitatively evaluate the fit of a respirator on an individual.

"Helmet" means a rigid respiratory inlet covering that also provides head protection against impact and penetration.

"Hood" means a respiratory inlet covering that completely covers the head, neck, and may also cover portions of the shoulders and torso.

"Inhalation class" [see "Class"] No change

"Loose-fitting face piece" means a respiratory inlet covering that is designed to form a partial seal with the face.

"Lung class" [see "Class"] No change

"Negative pressure respirator (tight fitting)" means respiratory protective equipment in which the air pressure inside the face piece is negative during inhalation with respect to the ambient air pressure outside the respirator.

"Nonstochastic effect" No change

"Planned special exposure" No change

"Positive pressure respirator" means respiratory protective equipment in which the pressure inside the respiratory inlet covering exceeds the ambient air pressure outside the respirator.

"Powered air-purifying respirator (PAPR)" means an air-purifying respirator that uses a blower to force the ambient air through air-purifying elements to the inlet covering.

"Pressure demand respirator" means a positive pressure, atmosphere-supplying respirator that admits breathing air to the face piece when the positive pressure is reduced inside the face piece by inhalation.

"Probabilistic effect" [see "Stochastic effect"] No change

"Qualitative fit test (QLFT)" means a pass or fail fit test to assess the adequacy of respirator fit that relies on the individual's response to the test agent.

"Quantitative fit test (QNFT)" means an assessment of the adequacy of respirator fit by numerically measuring the amount of leakage into the respirator.

"Reference Man" No change

"Respiratory protective equipment" No change

"Sanitary sewerage" No change

"Self-contained breathing apparatus (SCBA)" means an atmosphere-supplying respirator for which the breathing air source is designed to be carried by the user.

"Stochastic effect" No change

"Supplied-air respirator (SAR) or airline respirator" means an atmosphere-supplying respirator for which the source of breathing air is not designed to be carried by the user.

"Tight-fitting face piece" means a respiratory inlet covering that forms a complete seal with the face.

"User seal check (fit check)" means an action conducted by the respirator user to determine if the respirator is properly seated to the face. Examples include negative pressure check, positive pressure check, irritant smoke check, or isoamyl acetate check.

"Very high radiation area" No change

"Weighting factor" No change

R12-1-419. Conditions Requiring Individual Monitoring of External and Internal Occupational Dose

A. No change

B. No change

1. No change
2. No change
3. No change
4. ~~Individuals working with open beam fluoroscopic systems capable of exposing the individuals to 10% of the limits in R12-1-408(A). The individual monitoring device shall be located on the person according to the following requirements.~~
   a. ~~An individual monitoring device used for the dose to an embryo or fetus of a declared pregnant woman, according to R12-1-415(A), shall be located under the protective apron at the waist. A qualified expert shall be consulted to determine the dose to the embryo/fetus for the rare occasion in which this individual monitoring device has a monthly reported dose equivalent value in excess of 0.5 mSv (50 mrem). For purposes of these rules, the value to be used for determining the dose to an embryo or fetus according to R12-1-415(C)(1), for occupational exposure to radiation from medical fluoroscopic equipment is the value reported by the individual monitoring device worn at the waist underneath the protective apron which has been corrected for the particular individual and her work environment by a qualified expert;~~
   b. ~~An individual monitoring device used for eye dose equivalent shall be located at the neck, or an unshielded location closer to the eye, outside the protective apron;~~
   c. ~~When only 1 individual monitoring device is used to determine the effective dose equivalent for external radiation according to R12-1-408(C)(2), it shall be located at the neck outside the protective apron. When a 2nd individual monitoring device is used for the same purpose, it shall be located under the protective apron at the waist. (Note: The 2nd individual monitoring device is required for a declared pregnant woman.)~~
4. The following personnel:
   a. Individuals operating mobile x-ray equipment; except dental intraoral systems, as described in R12-1-608;
   b. Individuals holding animals for diagnostic x-ray procedures, as described in R12-1-613;
   c. Individuals servicing enclosed beam x-ray systems with bypassed interlocks, as described in R12-1-803;
   d. Individuals operating open beam fluoroscopic systems and ancillary personnel working in the room when the fluoroscopic system is in use, except when relieved of this requirement by license or registration condition under A.R.S. § 30-654(B)(13);
   e. Individuals on their extremities when operating analytical x-ray machines with no safety devices, or if service is performed in the primary beam of the analytical x-ray machine, as described in R12-1-806(D).
   f. Individuals performing industrial radiography or operating an uncertified enclosed x-ray machine, as described in Article 5;
   g. Individuals performing well logging, as described in Article 17; and

C. Each licensee or registrant shall require that all individual monitoring devices be located on individuals according to the following requirements:

1. An individual monitoring device used for the dose to an embryo or fetus of a declared pregnant woman, according to R12-1-415(A), shall be located under the protective apron at the waist. A qualified expert shall be consulted to determine the dose to the embryo or fetus for the rare occasion in which this individual monitoring device has a monthly reported dose equivalent value in excess of 0.5 mSv (50 mrem). For purposes of these rules, the value to be used for determining the dose to an embryo or fetus according to R12-1-415(C)(1), for occupational exposure to radiation from medical fluoroscopic equipment, is the value reported by the individual monitoring device worn at the waist underneath the protective apron which has been corrected for the particular individual and the work environment by a qualified expert;
2. An individual monitoring device used for lens dose equivalent shall be located at the neck, or an unshielded location closer to the eye, outside the protective apron;
3. If only one individual monitoring device is used to determine the effective dose equivalent for external radiation according to R12-1-408(C)(2), it shall be located at the neck outside the protective apron. If a second individual monitoring device is used for the same purpose, it shall be located under the protective apron at the waist. (Note: The second individual monitoring device is required for a declared pregnant woman.)

~~**C.**~~**D.** At a minimum, each licensee or registrant shall monitor, to determine compliance with R12-1-411, the occupational intake of radioactive material and assess the committed effective dose equivalent to.

1. No change
2. No change

~~**D.**~~**E.** Records.

1. No change

a. No change
b. No change
c. No change
d. No change
e. No change
f. No change
2. No change
3. No change
4. No change
5. No change

R12-1-423. Use of Process or Other Engineering Controls

A licensee shall use, to the extent practicable, process or other engineering controls, such as containment, decontamination, or ventilation, to control the concentration of radioactive material in air.

~~A licensee or registrant shall use process or other engineering controls, such as containment or ventilation, to control the concentrations of radioactive material in air and comply with R12-1-407.~~

R12-1-425. Use of Individual Respiratory Protection Equipment

A. No change
1. No change
2. No change
3. No change
   a. No change
   b. No change
   c. No change
   d. No change
   e. Determination by a physician that each individual user is physically fit to use respiratory protective equipment:
      i. Before the initial fitting of a face-sealing respirator with a tight-fitting face piece;
      ii. Before the first field use of non-face sealing respirator without a tight-fitting face piece, and
      iii. Every 12 months after initial fitting or first use, or periodically, at a frequency determined by the physician.

      ~~Determination by a physician prior to initial fitting of respirators, and at least every 12 months thereafter, that the individual user is physically able to use the respiratory protection equipment.~~
4. No change
   a. No change
   b. No change
   c. No change
5. No change
6. No change

B. No change
1. No change
2. No change
   a. No change
   b. No change

C. No change

D. A licensee shall apply to the Agency for authorization to use assigned protection factors in excess of those specified in Appendix A. To apply for authorization the licensee shall:
1. State the reason for the higher protection factors; and
2. Demonstrate that the requested respiratory protective equipment provides the higher protection factors under the proposed conditions of use.

~~**D.**~~**E.** The licensee shall notify the Agency in writing at least 30 days before the date that respiratory ~~protection~~ protective equipment is first used according to subsection (A) or (B).

R12-1-434. General Requirements for Waste Disposal

A. No change
1. No change
2. By decay in storage, according to subsection (C);
3. No change
4. No change

B. No change
1. No change
2. No change

3. No change
4. No change
5. No change

C. A licensee is authorized to hold radioactive waste with a physical half-life of less than 120 days for decay-in-storage before disposal in ordinary trash provided:
1. The radioactive waste is held for decay a minimum of 10 half-lives;
2. The radioactive waste is surveyed with a survey meter, appropriate for the type of radiation being detected, to determine that its emitted radiation level cannot be distinguished from the background radiation; and
3. All radiation warning labels are removed or obliterated.

Appendix A. Assigned Protection Factors for Respirators

Tested & Certified Equipment		Protection Factors[4]		
Description[2]	Modes[3]	Particulates only	Particulates gases, & vapors[5]	National Institute for Occupational Safety and Health/Mine Safety and Health Administration for permissibility tests
I. AIR-PURIFYING RESPIRATORS[6]				
Facepiece, half-mask[7]	NP	10		30 CFR 11, Subpart K.
Facepiece, full	NP	50		
Facepiece, half-mask full or hood	PP	1,000		
II. ATMOSPHERE-SUPPLYING RESPIRATORS				
1. Air-line respirator				
Facepiece, half-mask	CF	1,000		
Facepiece, half-mask	D	5		
Facepiece, full	CF	2,000		
Facepiece, full	D	5		30 CFR 11, Subpart J.
Facepiece, full	PD	2,000		
Hood	CF	8		
Suit	CF	9	10	
2. Self-contained breathing apparatus (SCBA)				
Facepiece, full	D	50		
Facepiece, full	PD	10,000[11]		30 CFR 11, Subpart H.
Facepiece, full	RD	50		
Facepiece, full	RP	5,000[12]		
III. COMBINATION RESPIRATORS				
Any combination of air-purifying and atmosphere-supplying respirators	Protection factor for type and mode of operation as listed above			30 CFR 11, Sec. 11.63(b).

FOOTNOTES TO APPENDIX A

1. For use in the selection of respiratory protective equipment to be used only where the contaminants have been identified and the concentrations, or possible concentrations, are known.
2. Only for shaven faces and where nothing interferes with the seal of tight-fitting facepieces against the skin. Hoods and suits are excepted.
3. The mode symbols are defined as follows:
   - CF = continuous flow
   - D = demand
   - NP = negative pressure, that is, negative phase during inhalation
   - PD = pressure demand, that is, always positive pressure
   - PP = positive pressure
   - RD = demand, recirculating or closed circuit
   - RP = pressure demand, recirculating or closed circuit

4.

a. The protection factor is a measure of the degree of protection afforded by a respirator, defined as the ratio of the concentration of airborne radioactive material outside the respiratory protective equipment to that inside the equipment, usually inside the facepiece, under conditions of use. It is applied to the ambient airborne concentration to estimate the concentrations inhaled by the wearer according to the following formula:

Concentration inhaled = Ambient airborne concentration Protection factor

b. The protection factors apply:

(i) Only for individuals trained in using respirators and wearing properly fitted respirators that are used and maintained under supervision in a well-planned respiratory protective program.

(ii) For air-purifying respirators only when high efficiency particulate filters, above 99.97% removal efficiency by thermally generated 0.3 mm dioctyl phthalate (DOP) test or equivalent, are used in atmospheres not deficient in oxygen and not containing radioactive gas or vapor respiratory hazards.

(iii) No adjustment is to be made for the use of sorbents against radioactive material in the form of gases or vapors.

(iv) For atmosphere-supplying respirators only when supplied with adequate respirable air. Respirable air shall be provided of the quality and quantity required in accordance with the National Institute for Occupational Safety and Health and the Mine Safety and Health Administration certification described in 30 CFR 11. Oxygen and air shall not be used in the same apparatus.

5. Excluding radioactive contaminants that present an absorption or submersion hazard. For tritium oxide, approximately one-third of the intake occurs by absorption through the skin so that an overall protection factor of less than 2 is appropriate when atmosphere-supplying respirators are used to protect against tritium oxide. If the protection factor for respiratory protective equipment is 5, the effective protection factor for tritium is about 1.4; with protection factors of 10, the effective factor for tritium oxide is about 1.7; and with protection factors of 100 or more, the effective factor for tritium oxide is about 1.9. Air-purifying respirators are not suitable for protection against tritium oxide. See also footnote 9 concerning supplied-air suits.

6. Canisters and cartridges shall not be used beyond service-life limitations.

7. Under-chin type only. This type of respirator is not satisfactory for use where it might be possible, such as, if an accident or emergency were to occur, for the ambient airborne concentrations to reach instantaneous values greater than 10 times the pertinent values in Table I, Column 3 of Appendix B of Article 4. This type of respirator is not suitable for protection against plutonium or other high-toxicity materials. The mask is to be tested for fit prior to use, each time it is donned.

8.

a. Equipment shall be operated in a manner that ensures that proper air flow-rates are maintained. A protection factor of no more than 1,000 may be utilized for tested and certified supplied air hoods when a minimum air flow of 6 cubic feet per minute (0.17 m^3/min) is maintained and calibrated air line pressure gauges or flow-measuring devices are used. A protection factor of up to 2,000 may be used for tested and certified hoods only when the air flow is maintained at the manufacturer's recommended maximum rate for the equipment; this rate is greater than 6 cubic feet per minute (0.17 m^3/min) and calibrated air line pressure gauges or flow-measuring devices are used.

b. The design of the supplied-air hood or helmet, with a minimum flow of 6 cubic feet per minute (0.17 m^3/min) of air, may determine its overall efficiency and the protection it provides. For example, some hoods aspirate contaminated air into the breathing zone when the wearer works with hands over head. This aspiration may be overcome if a short cape-like extension to the hood is worn under a coat or overalls. Other limitations specified by the approval agency shall be considered before using a hood in certain types of atmospheres. See footnote 9.

9. Appropriate protection factors shall be determined, taking into account the design of the suit and its permeability to the contaminant under conditions of use. There shall be a standby rescue person equipped with a respirator or other apparatus appropriate for the potential hazards and communications equipment whenever supplied-air suits are used.

10. No approval schedules are currently available for this equipment. Equipment is to be evaluated by testing or on the basis of reliable test information.

11. This type of respirator may provide greater protection and be used as an emergency device in unknown concentrations for protection against inhalation hazards. External radiation hazards and other limitations to permitted exposure, such as skin absorption, shall be taken into account in such circumstances.

12. Quantitative fit testing shall be performed on each individual, and no more than 0.02% leakage is allowed with this type of apparatus. Perceptible outward leakage of gas from this or any positive pressure, self-contained breathing apparatus is unacceptable because service life will be reduced substantially. Special training in the use of this type of apparatus shall be provided to the wearer.

Note 1: Protection factors for respirators approved by the U.S. Bureau of Mines and the National Institute for Occupational Safety and Health, according to applicable approvals for respirators for type and mode of use to protect against airborne radionuclides, may be used to the extent that they do not exceed the protection factors listed in this table. The protection factors listed in this table may not be appropriate to circumstances where chemical or other respiratory hazards exist in

~~addition to radioactive hazards. The selection and use of respirators for such circumstances should take into account applicable approvals of the U.S. Bureau of Mines and the National Institute for Occupational Safety and Health.~~

~~Note 2: Radioactive contaminants, for which the concentration values in Table I, Column 3 of Appendix B of Article 4 are based on internal dose due to inhalation, may present external exposure hazards at higher concentrations. Under these circumstances, limitations on occupancy may have to be governed by external dose limits.~~

	Operating mode	**Assigned Protection Factors**
I. Air Purifying Respirators[a] [Particulate [b] only] [c]:		
Filtering face piece disposable [d]	Negative	([d])
Face piece, half [e]	Negative Pressure	10
Face piece, full	Negative Pressure	100
Face piece, half	Powered Air-purifying Respirators	50
Face piece, full	Powered Air-purifying Respirators	1000
Helmet/hood	Powered Air-purifying Respirators	1000
Face piece, loose-fitting	Powered Air-purifying Respirators	25
II. Atmosphere supplying respirators [particulate, gases and vapors[f]]:		
1. Air-line respirator:		
Face piece, half	Demand	10
Face piece, half	Continuous Flow	50
Face piece, half	Pressure Demand	50
Face piece, full	Demand	100
Face piece, full	Continuous Flow	1000
Face piece, full	Pressure Demand	1000
Helmet/hood	Continuous Flow	1000
Face piece, loose-fitting	Continuous Flow	25
Suit	Continuous Flow	([g])
2. Self-contained breathing Apparatus (SCBA):		
Face piece, full	Demand	[h]100
Face piece, full	Pressure Demand	[i]10,000
Face piece, full	Demand, Recirculating	[h]100
Face piece, full	Positive Pressure Recirculating	[i]10,000
III. Combination Respirators:		
Any combination of air-purifying and atmosphere-supplying respirators	Assigned protection factor for type and mode of operation as listed above	

[a] These assigned protection factors apply only in a respiratory protection program that meets the requirements of this Article. They are applicable only to airborne radiological hazards and may not be appropriate if chemical or other respiratory hazards exist instead of, or in addition to, radioactive hazards. A licensee shall comply with Department of Labor regulations, regarding selection and use of respirators for those circumstances.

Radioactive contaminants for which the concentration values in Table 1, Column 3 of Appendix B are based on internal dose due to inhalation may, in addition, present external exposure hazards at higher concentrations. Under these circumstances, limitations on occupancy may have to be governed by external dose limits.

[b] A licensee shall equip air purifying respirators of APF<100 with particulate filters that are at least 95 percent efficient. The licensee shall equip air purifying respirators of APF=100 with particulate filters that are at least 99 percent efficient. The licensee shall equip air purifying respirators of APF>100 with particulate filters that are at least 99.97 percent efficient.

[c] A licensee may apply to the Commission for the use of an APF greater than 1 for sorbent cartridges as protection against airborne radioactive gases and vapors, similar to radioiodine.

[d] A Licensee may permit an individual to use this type of respirator if the individual has not been medically screened or fit tested on the device, provided that no credit is taken for use of these respirators in estimation of intake or dose. It is also recognized that it is difficult to perform an effective positive or negative pressure pre-use user seal check on this type of device. All other respiratory protection program requirements listed in 10 CFR 20.1703, January 2000 Edition, and published January 1,

2000, apply and are incorporated by reference and available for review at the Agency and Secretary of State. This incorporation by reference contains no future editions or amendments. There is no assigned protection factor for these devices. However, a licensee may use an APF equal to 10 if the licensee can demonstrate a fit factor of at least 100 by use of a validated or evaluated, qualitative or quantitative fit test.

e Under-chin type only. No distinction is made in this appendix between elastomeric half-masks with replaceable cartridges and those designed with the filter medium as an integral part of the face piece (disposable or reusable disposable). Both types are acceptable as long as the seal area of the latter contains some substantial type of seal-enhancing material, such as rubber or plastic, two or more suspension straps are adjustable, the filter medium is at least 95 percent efficient, and all other requirements of this Article are met.

f The assigned protection factors for gases and vapors are not applicable to radioactive contaminants that present an absorption or submersion hazard. For tritium oxide vapor, approximately one-third of the intake occurs by absorption through the skin so that an overall protection factor of 3 is appropriate when atmosphere-supplying respirators are used to protect against tritium oxide. Exposure to radioactive noble gases is not considered a significant respiratory hazard and protective actions for these contaminants should be based on external (submersion) dose considerations.

g No NIOSH approval schedule is currently available for atmosphere supplying suits. This equipment may be used in an acceptable respiratory protection program as long as all the other minimum program requirements, with the exception of fit testing, are met. The minimum program requirements are provided in 10 CFR 20.1703.

h The licensee shall implement institutional controls to assure that these devices are not used in areas immediately dangerous to life or health (IDLH).

i This type of respirator may be used as an emergency device in unknown concentrations for protection against inhalation hazards. External radiation hazards and other limitations to permitted exposure such as skin absorption shall be taken into account in these circumstances. This device may not be used by any individual who experiences perceptible outward leakage of breathing gas while wearing the device.

ARTICLE 5. INDUSTRIAL RADIOGRAPHIC OPERATIONS

R12-1-501. ~~Limits on Levels of Radiation for Radiographic Exposure Devices and Storage Containers~~ Definitions

~~**A.** A licensee shall ensure that a radiographic exposure devices with less than 10 centimeters (4 inches) of space from the sealed source storage position to any exterior surface of the device have no radiation level in excess of 500 microsievert (50 millirem) per hour at 15 centimeters (6 inches) from any exterior surface of the device.~~

~~**B.** A licensee shall ensure that radiographic exposure devices with 10 centimeters (4 inches) of space or more from the sealed source storage position to any exterior surface of the device, and all storage containers for sealed sources or for radiographic exposure devices, have no radiation level in excess of 2 millisievert (200 millirem) per hour at any exterior surface, and 100 microsievert (10 millirem) per hour at 1 meter (40 inches) from any exterior surface. The radiation levels specified are with the sealed source in the shielded position.~~

"Access panel" means any panel that is designed to be removed or opened for maintenance or service purposes, opened using tools, and used to provide access to the interior of the cabinet x-ray unit.

"Annual refresher safety training" means a review conducted or provided by the licensee for its employees on radiation safety aspects of industrial radiography. The review shall include, as applicable, the results of internal inspections, new procedures or equipment, new or revised state rules, accidents or errors that have occurred, and provide opportunities for employees to ask safety questions.

"Aperture" means any opening in the outside surface of the cabinet x-ray unit, other than a port, which remains open during generation of x-radiation.

"Associated equipment" means equipment used in conjunction with a radiographic exposure device that drives, guides, or comes in contact with the source.

"Collimator" means a radiation shield that is placed on the end of the guide tube or directly onto a radiographic exposure device to restrict the size of the radiation beam when the sealed source is positioned to make a radiographic exposure.

"Control (drive) cable" means the cable that is connected to the source assembly and used to drive the source to and from the exposure location.

"Control (drive) mechanism" means a device that enables the source assembly to be moved to and from the exposure device.

"Control tube" means a protective sheath for guiding the control cable. The control tube connects the control drive mechanism to the radiographic exposure device.

"Door" means any barrier that is designed to be movable or opened for routine operation purposes, not opened using tools, and used to provide access to the interior of the cabinet x-ray unit.

"Exposure head" means a device that places the gamma radiography sealed source in a selected working position.

"Ground fault" means an accidental electrical grounding of an electrical conductor.

"Guide tube (projection sheath)" means a flexible or rigid tube used to guide the source assembly and the attached control cable from the exposure device to the exposure head. The guide tube may also include the connections necessary for attachment to the exposure device and the exposure head.

"Hands-on experience" means accumulation of knowledge or skill in any area relevant to radiography.

"Port" means any opening in the outside surface of the cabinet x-ray unit that is designed to remain open, during generation of x-rays, for conveying material being irradiated into and out of the cabinet, or for partial insertion of an object for irradiation whose dimensions do not permit complete insertion into the cabinet x-ray unit.

"Practical examination" means a demonstration, through practical application of safety rules and principles of industrial radiography, including use of all radiography equipment and knowledge of radiography procedures.

"Radiographic operations" means all activities associated with the presence of radioactive sources in a radiographic exposure device during use of the device or transport (except when the device is being transported by a common or contract carrier). This includes performing surveys to confirm the adequacy of boundaries, setting up equipment, and conducting any activity inside restricted area boundaries.

"Source assembly" means an assembly that consists of a sealed source and a connector that attaches the source to a control cable. The source assembly may also include a stop ball used to secure the source in the shielded position.

R12-1-514. ~~Repealed~~ Limits on External Radiation Levels from Storage Containers and Source Changers

The maximum rate limits for storage containers and source changers are 2 millisieverts (200 mRem/hr) at any exterior surface and 0.1 millisieverts (10 mRem/hr) at 1 meter from any exterior surface with the sealed source in the shielded position.

R12-1-535. ~~Reserved~~ Notifications

A. In addition to the reporting requirements specified in Article 4, each licensee shall provide a written report to the Agency if any of the following incidents involving radiography equipment occur:
1. Unintentional disconnection of the source assembly from the control cable;
2. Inability to retract the source assembly to the fully shielded position or secure it in this position; or
3. Failure of any component (critical to safe operation of the device) to properly perform its intended function;

B. A licensee shall include the following information in any report submitted under this Section, regarding radiography equipment, or Article 4, regarding an overexposure, if the report concerns the failure of safety components of radiography equipment:
1. A description of the equipment problem;
2. Cause of the incident, if known;
3. Name of manufacturer and model number of the equipment involved in the incident;
4. Place, date, and time of the incident;
5. Actions taken to establish normal operations;
6. Corrective actions taken or planned to prevent reoccurrence; and
7. Qualifications of personnel involved in the incident.

C. Any licensee that conducts radiographic operations, or stores radioactive material at a location not listed on the license or for a period longer than 180 days during a calender year, shall notify the Agency of these activities before the 180 days has elapsed.

R12-1-541. Enclosed Radiography Using X-ray Machines

A. No change
1. No change
2. No change

B. No change
1. No change
2. No change
3. No change
4. No change
5 No change

C. No change
1. No change
2. No change
3. No change
4. No change
5. No change
6. No change
7. No change

8. No change
9. No change
10. No change
11. No change
12. No change

D. The registrant shall connect an enclosed radiography machine to the electrical system in a manner that will prevent a ground fault from generating x-radiation.

R12-1-542. ~~Repealed~~ Baggage Inspection Systems

A. For x-ray systems designed to screen carry-on baggage at airlines, railroads, bus terminals, or similar facilities, a registrant shall station the operator at the control area in a position that permits surveillance of the ports and doors during generation of x-radiation to prevent exposure to passengers and other members of the public.

B. For an exposure or preset succession of exposures of 1/2 second or greater duration, a registrant shall use a system that enables the operator to terminate the exposure or preset succession of exposures at any time.

C. For an exposure or preset succession of exposures of less than 1/2 second duration, a registrant shall use a system that allows the operator to complete the exposure in progress, but prevent additional exposures.

D. A registrant shall operate a baggage inspection system according to the manufacturer's instructions.

E. A registrant shall not disconnect or otherwise tamper with the safety systems of a baggage inspection system, except for maintenance purposes.

F. In addition to the requirements in this Section, registrants using a baggage inspection system shall meet the requirements in R12-1-541(A), (B), and (D).

ARTICLE 7. USE OF RADIONUCLIDES IN THE ~~HEALING ARTS~~ PRACTICE OF MEDICINE

R12-1-703. License for Medical Use of Radioactive Material

A. No change
1. No change
2. No change
3. No change
4. No change

B. No change
1. No change
   a. No change
   b. No change
   ~~c. The applicant has access to a medical institution with adequate facilities to hospitalize and monitor the applicant's radioactive patients whenever it is advisable; and~~
   ~~d.~~c. The applicant has substantial experience in the handling and administration of radionuclides, and where applicable, the clinical management of radioactive patients.
2. No change
   a. No change
      i. No change
      ii. No change
      iii. No change
      iv. No change
   b. No change
   c. No change

C. No change
1. No change
   a. No change
   b. No change
   c. No change
   d. No change
   e. No change
2. No change
   a. For Groups I, II, IV, and V, a licensee or registrant shall not receive, possess, or use radioactive material as a radiopharmaceutical unless manufactured in the form to be administered to the patient, labeled, packaged, and distributed according to a specific license issued by the Agency under R12-1-311(J), a specific license issued by the U.S. Nuclear Regulatory Commission under 10 CFR 32.72, ~~1998~~ 2000 Edition, published January 1, ~~1998~~ 2000, incorporated by reference and on file with the Agency and the Office of Secretary of State (this incorporation by reference contains no future editions or amendments), or a specific license issued by an Agreement State or a Licensing State under equivalent rules.

b. No change
i. No change
ii. No change
c. No change
i. No change
ii No change
iii. No change
d. No change
3. No change
4. No change

D. No change

R12-1-704. Supervision

A. No change
B. No change
C. No change
D. No change
E. A limited-service nuclear pharmacy permittee shall dispense radiopharmaceuticals only to a physician listed as an authorized user on a valid radioactive material license issued by the Agency, an Agreement State, or the NRC.

R12-1-707. Quality Management Program

Each licensee, using radioactive material or the radiation from radioactive material for therapeutic purposes, shall establish and maintain a written quality management program so that radioactive material or radiation from it will be administered in accordance with a written directive from ~~as directed by~~ an authorized user listed on a valid radioactive material license. The quality management program shall include written policies and procedures to meet the specific patient safety objectives established by the Radiation Safety Committee or Radiation Safety Officer for licensees not required to have a Radiation Safety Committee.

R12-1-714. Brachytherapy

A. No change
1. No change
2. No change
3. No change
4. No change
5. No change

B. No change
C. Radiation surveys.
1. A physician on a radioactive material license, ~~or qualified designee~~ qualified expert, or person approved by the licensee's radiation safety officer shall measure the maximum radiation level at a distance of 1 meter (40 in.) from the patient in whom brachytherapy sources have been inserted, using a calibrated survey instrument. This radiation level shall be entered on the patient's chart and other signs posted as required in subsection ~~(D)~~ (E).
2. A physician on a radioactive material license, ~~or qualified designee~~ qualified expert, or person approved by the licensee's radiation safety officer shall measure and record the radiation level in the patient's room and the surrounding area. The licensee shall maintain the record for Agency inspection.
3. No change

D. A qualified expert who meets the following training and experience requirements shall perform all physics procedures necessary to prepare a patient for a therapeutic application of radiation. The qualified expert shall:
1. Be certified by the American Board of Radiology in: Therapeutic Radiological Physics, Radiological Physics, Roentgen-Ray and Gamma-Ray Physics, or X-ray and Radium Physics; or the American Board of Medical Physicists in Radiation Oncology Physics; or
2. Have the following minimum training and experience:
   a. A Master's or Doctor's degree in physics, biophysics, radiological physics, or health physics;
   b. One year of full-time training in therapeutic radiological physics; and
   c. One year of full-time experience at a radiotherapy facility, including personal experience calibrating brachytherapy radiation sources and planning associated patient treatment.
3. A candidate who does not meet the standards in subsections (D)(1) and (D)(2), may request a license amendment for an exemption from these training or experience requirements in accordance with A.R.S. § 30-654(B)(13). The request shall include the name of the proposed qualified expert, a description of the individual's training and experience, including information similar to that specified in subsection (D)(2), and a written endorsement, based on personal knowledge of the individual's qualifications, by a physicist certified by the American Board of Radiology in one of the specialties listed in subsection (D)(1).

~~**D.**~~**E.** No change
1. No change
2. A physician on a radioactive material license~~,~~ ~~or qualified designee~~ qualified expert, or person approved by the licensee's radiation safety officer shall include the following information in the patient's records when the patient is undergoing brachytherapy:
   a. No change
   b. No change
   c. The radiation symbol; and
   d. The precautionary instructions necessary to assure that the exposure of individuals does not exceed that permitted in ~~R12-1-408~~ Article 4.

R12-1-717. High Dose Rate Remote After-loading Brachytherapy Devices

A. No change
B. No change
C. No change
1. No change
2. No change

D. ~~The licensee shall test the electrical interlocks on the entrance door to the treatment room for proper operation at least once a month. Records of test results shall be maintained for 3 years for inspection by the Agency.~~
The licensee shall test the following for proper operation once each month. Records of test results shall be maintained for three years for inspection by the Agency:
1. The electrical interlock on the entrance door to the treatment room, and
2. The radiation source locking system.

E. ~~In the event of malfunction of the door interlock, the licensee shall lock the after-loading irradiation device in the "off" position and not use the after-loading, except as may be necessary to repair or replace the interlock system, until the interlock system is shown to be functioning properly.~~
In the event of malfunction of a door interlock or source locking system, the licensee shall secure from use the after-loading irradiation device and not use the after-loading, except as may be necessary to repair or replace the interlock system, until the interlock system is shown to be functioning properly.

F. No change
1. No change
   a. No change
   b. No change
      i. No change
      ii. No change
      iii. No change
2. No change

G. No change
1. No change
2. No change

H. No change

I. A qualified expert who meets the following training and experience requirements shall perform all physics procedures necessary to prepare a patient for a therapeutic application of radiation. The qualified expert shall:
1. Be certified by the American Board of Radiology in: Therapeutic Radiological Physics, Radiological Physics, Roentgen-Ray and Gamma-Ray Physics, or X-ray and Radium Physics; or the American Board of Medical Physicists in Radiation Oncology Physics; or
2. Have the following minimum training and experience:
   a. A Master's or Doctor's degree in physics, biophysics, radiological physics, or health physics;
   b. One year of full-time training in therapeutic radiological physics; and
   c. One year of full-time experience at a radiotherapy facility, including personal experience calibrating brachytherapy radiation sources and planning associated patient treatment.
3. A candidate who does not meet the standards in subsections (I)(1) and (I)(2), may request a license amendment for an exemption from these training or experience requirements in accordance with A.R.S. § 30-654(B)(13). The request should include the name of the proposed qualified expert, a description of the individual's training and experience, including information similar to that specified in subsection (I)(2), and a written endorsement, based on personal knowledge of the individual's qualifications, by a physicist certified by the American Board of Radiology in one of the specialties listed in subsection (I)(1).

R12-1-718. Gamma Stereotactic Radiosurgery

A. No change

B. No change
C. No change
D. No change
1. No change
2. No change
3. No change
4. No change
5. No change
   a. No change
   b. No change
   c. No change

E. No change
F. No change
G. No change
1. No change
   a. No change
   b. No change
2. No change
   a. No change
   b. No change
   c. No change

H. No change
I. A qualified expert who meets the following training and experience requirements shall perform all physics procedures necessary to prepare a patient for a therapeutic application of radiation. The qualified expert shall:
1. Be certified by the American Board of Radiology in: Therapeutic Radiological Physics, Radiological Physics, Roentgen-Ray and Gamma-Ray Physics, or X-ray and Radium Physics; or the American Board of Medical Physicists in Radiation Oncology Physics; or
2. Have the following minimum training and experience:
   a. A Master's or Doctor's degree in physics, biophysics, radiological physics, or health physics;
   b. One year of full-time training in therapeutic radiological physics; and
   c. One year of full-time experience at a radiotherapy facility, including personal experience calibrating a gamma stereotactic radiosurgery system and planning associated patient treatment.
3. A candidate who does not meet the standards in subsections (I)(1) and (I)(2), may request a license amendment for an exemption from these training or experience requirements in accordance with A.R.S. § 30-654(B)(13). The request should include the name of the proposed qualified expert, a description of the individual's training and experience, including information similar to that specified in subsection (I)(2), and a written endorsement, based on personal knowledge of the individual's qualifications, by a physicist certified by the American Board of Radiology in one of the specialties listed in subsection (I)(1).

ARTICLE 13. LICENSE AND REGISTRATION FEES

R12-1-1302. License and Registration Categories

A. No change
1. No change
2. No change
3. No change
4. No change

B. No change
1. No change
2. No change
3. No change
4. No change
5. No change
6. No change

C. No change
1. No change
2. No change
3. No change
4. No change
5. No change

6. No change
7. No change
8. No change
9. No change
10. No change
11. No change
12. No change
13. No change
14. A self-shielded irradiator license is a specific category C license authorizing the use radioisotopes in the form of sealed sources for irradiation of materials in a shielding device from which the sources are not removed during irradiation. The Agency may combine a self-shielded irradiator license with any broad ~~industrial broad~~ license.
15. No change
16. No change
17. No change

D. No change
1. No change
   a. No change
   b. No change
2. No change
3. No change
4. No change
5. No change
6. No change
7. No change
8. No change
9. No change
10. No change
11. No change
12. No change
13. No change
14. No change
15. No change
16. No change
17. No change
18. No change
19. No change

E. Category E registrations ~~and licenses~~ are those that register the possession of x-ray machine(s) ~~equipment or license the use of nonionizing radiation producing equipment~~ under 12 A.A.C. 1, Article 2 ~~or 14~~. The Agency shall not combine Category E registrations ~~or licenses~~ with any other registration ~~or license~~.
1. No change
2. No change
3. No change
4. No change
5. No change
6. A radiation machine, "other," is one authorizing possession or use of an ionizing radiation machine not included in any other category specified in subsection (E) of this Section.

~~6. A tanning facility license is one authorizing the commercial operation of any number of tanning booths, beds, cabinets, or other enclosures in a single establishment.~~
~~7. A class A laser facility license is one which authorizes the operation of 1 to 10 laser systems subject to R12-1-1433.~~
~~8. A class B laser facility license is one which authorizes the possession of 11 to 49 laser systems subject to R12-1-1433.~~
~~9. A class C laser facility license is one which authorizes operation of 50 or more laser systems subject to R12-1-1433.~~
~~10. A laser light show license is one authorizing the operation of a laser system subject to R12-1-1440.~~
~~11. A medical laser facility license is one which authorizes the operation of one or more laser systems subject to R12-1-1439.~~
~~12. A medical radiofrequency device facility license is one authorizing the possession of one or more radiofrequency diathermy units.~~
~~13. A medical imaging facility license is one authorizing operation of a nuclear magnetic resonance imaging system utilizing radiofrequency and magnetic fields.~~
~~14. A class A industrial radiofrequency device facility license is one authorizing 1 to 5 radiofrequency heat sealers or~~

~~industrial microwave ovens.~~

~~15. A class B industrial radiofrequency device facility license is one authorizing 6 to 20 radiofrequency heat sealers or industrial microwave ovens.~~

~~16. A class C industrial radiofrequency device facility license is one authorizing more than 20 radiofrequency heat sealers or industrial microwave ovens.~~

~~17. A radiation machine, "other," is one authorizing possession of or a usage of a radiation machine not included in any other category specified in subsection (E) of this Section.~~

F. Category F registrations are those that register nonionizing radiation producing sources regulated under 12 A.A.C. 1, Article 14. The Agency shall not combine Category F registrations with any other registration.

1. A tanning registration authorizes the commercial operation of any number of tanning booths, beds, cabinets, or other devices in a single establishment.
2. A Class A laser registration authorizes the operation of 1 to 10 laser devices subject to R12-1-1433.
3. A Class B laser registration authorizes the operation of 11 to 49 laser devices subject to R12-1-1433.
4. A Class C laser registration authorizes operation of 50 or more laser devices subject to R12-1-1433.
5. A laser light show registration authorizes the operation of a laser device subject to R12-1-1440.
6. A medical laser registration authorizes the operation of one or more laser devices subject to R12-1-1439.
7. A Class II surgical device registration authorizes the operation of one or more Class II surgical devices subject to R12-1-1417.
8. A medical radiofrequency device registration authorizes the operation of one or more medical radiofrequency devices.
9. A class A industrial radiofrequency device registration authorizes the operation of one to five radiofrequency heat sealers or industrial microwave ovens.
10. A class B industrial radiofrequency device registration authorizes the operation of six to 20 radiofrequency heat sealers or industrial microwave ovens.
11. A class C industrial radiofrequency device registration authorizes the operation more than 20 radiofrequency heat sealers or industrial microwave ovens.
12. An "other" nonionizing radiation device authorizes the operation of a nonionizing radiation device or other device not included in any other category specified in subsection (F).

R12-1-1306. Table of Fees

A. No change

Table 13-1

Category	Type	Annual fee
A1.	Broad academic class A	$2,600
A2.	Broad academic class B	$1,500
A3.	Broad academic class C	$1,200
A4.	Limited academic	$600
B1.	Broad medical	$1,650
B2.	Medical materials class A	$1,400
B3.	Medical materials class B	$1,000
B4.	Medical materials class C	$500
B5.	Medical teletherapy	$1,650
B6.	General medical	$75
C1.	Broad industrial class A	$2,200
C2.	Broad industrial class B	$1,600
C3.	Broad industrial class C	$1,250
C4.	Limited industrial	$500
C5.	Portable gauge	$500
C6.	Fixed gauge class A	$800
C7.	Fixed gauge class B	$500
C8.	Leak detector	$500
C9.	Gas chromatograph	$300
C10.	General industrial	No Fee
C11.	Industrial radiography class A	$1,650
C12.	Industrial radiography class B	$1,500
C13.	Open field irradiator	Full Cost
C14.	Self-shielded irradiator	$600
C15.	Well logging	$1,750

C16.	Research and ~~Development~~ development	$750
C17.	Laboratory	$600
D1.	Distribution	$2,150
D2.	Nuclear pharmacy	$2,150
D3.	Nuclear laundry	$2,250
D4.	Depleted uranium	$100
D5.	General depleted uranium	$75
D6.	Veterinary medicine	$500
D7.	General veterinary medicine	$75
D8.	Health ~~Physics~~ physics class A	$600
D9.	Health physics class B	$450
D10.	Secondary uranium recovery	$4,000
D11.	Low-level radioactive waste disposal site	(3)
D12.	Waste processor class A	$2,250
D13.	Waste processor class B	$500
D14.	Additional storage and use site ~~facility~~	(1)
D15.	Possession only	(2)
D16.	Reciprocal	(3)
D17.	Radioactive waste transfer-for-disposal	(3)
D18.	Unclassified	Full Cost
D19.	~~Norm~~ NORM commercial disposal site	$200,000
E1.	X-ray machine Class A (per tube)	$64
E2.	X-ray machine class B (per tube)	$44
E3.	X-ray machine class C (per tube)	$36
E4.	Industrial radiation machine (per device)	$36
E5.	Major accelerator facility	Full Cost
E6.	Other ionizing radiation machine	Full Cost
~~E6.~~F1.	Tanning ~~facility~~ device (per device)	$24
~~E7.~~F2.	Class A (1 to 10 laser devices) ~~laser facility~~	$150
~~E8.~~F3.	Class B (11 to 49 laser devices) ~~laser facility~~	$350
~~E9.~~F4.	Class C (50 or more laser devices) ~~laser facility~~	$600
~~E10.~~F5.	Laser light show or laser demonstration	$350
~~E11.~~F6.	~~Medical laser facility (per laser system)~~ Medical laser (per laser device)	$40
F7.	Class II surgical (per device)	$40
~~E12.~~F8.	~~Medical RF device facility (per unit)~~ Medical RF (per device)	$40
~~E13.~~	~~Medical imaging facility (per unit)~~	~~$50~~
~~E14.~~F9.	Class A industrial (1 to 5 radiofrequency devices) ~~industrial radiofrequency facility~~	$60
~~E15.~~F10.	Class B industrial (6 to 20 radiofrequency devices) ~~industrial radiofrequency facility~~	$180
~~E16.~~F11.	Class C industrial (more than 20 radiofrequency devices) ~~industrial radiofrequency facility~~	$300
~~E17.~~F12.	Other nonionizing radiation device or other device ~~radiation machine~~	Full Cost

Notes: (1) ~~20% of the~~ An additional 20% of the annual base fee is added to the annual base fee for each additional site, not to exceed an additional 100% ~~additional~~ for all sites.

(2) ~~50% of the annual fee for the license type required for full use of the stored radioactive materials.~~ The fee is 50% of the annual base fee for the category under which the radioactive material will be stored.

(3) See R12-1-1307.

B. No change

1. No change
   a. No change

b. No change
c. No change
2. No change
3. No change

ARTICLE 15. TRANSPORTATION

R12-1-1501. ~~Reserved~~ Requirement for License

A person shall not transport radioactive material or deliver radioactive material to a carrier for transport unless the person is authorized in a general or specific license issued by the Agency or exempt under R12-1-103(A).

R12-1-1505. ~~Storing~~ Storage of Radioactive Material in Transport

A. A ~~person~~ carrier shall not store, for any period in excess of 72 hours, any package ~~containing~~ that contains radioactive material bearing a Department of Transportation Yellow II or Yellow III label, unless the radioactive material is stored in an area other than, and not adjacent to, any food storage area or area that is normally occupied by an individual.

B. A ~~person shall not store radioactive material~~ carrier shall not store a package that contains radioactive material with other hazardous materials, except as authorized by U.S. Department of Transportation regulations in 49 CFR 177.848, 2000 ~~1995~~ Edition, published October 1, 2000 ~~1995~~, incorporated by reference and on file with the Agency and the Office of the Secretary of State, containing no future editions or amendments.

C. Whenever a package containing radioactive material is stored in excess of 48 hours, the storage area shall be conspicuously posted according ~~pursuant~~ to the requirements of Article 4.

D. No change
1. No change
   a. No change
   b. No change
   c. No change
   d. No change
   e. No change
   f. No change
   g. No change
   h. No change
2. If the radioactive material will be, or has been in storage for longer than 90 days, the carrier shall notify the Agency in writing and include the information required in subsection (D)(1) ~~(B)(1) above~~.
3. No change

R12-1-1506. Preparation of Radioactive Material for Transport

A licensee shall not deliver any package ~~containing~~ that contains radioactive material to a carrier for transport or transport radioactive material, unless the licensee ~~has~~:

1. ~~Complied~~ Complies with the applicable packaging, monitoring, manifesting, marking, and labeling requirements, appropriate to the mode of transport, of the U.S. Department of Transportation, 49 CFR 171 through ~~189~~, 180, 2001 ~~1995~~ Edition, published October 1, 2001 ~~1995~~, or 39 CFR 111.1, 2001 Edition, published July 1, 2001. Both are incorporated by reference and on file with the Agency and the Office of Secretary of State. This incorporation contains no future editions or amendments; and
2. ~~Established~~ Establishes procedures for safely opening and closing packages in which radioactive material is transported; and
3. Prior ~~Assured, prior~~ to ~~the~~ delivery of a package to a carrier for transport, assures that:
   a. The package is properly closed; and
   b. Any special instructions needed to safely open the package, are ~~sent or~~ made available to the consignee.

R12-1-1507. Packaging Quality Assurance

A. ~~Licensees~~ A licensee that ~~transport~~ transports radioactive material in the course of ~~their~~ business or delivers radioactive material to a carrier for transport in a package for which a license, certificate of compliance, or other approval has been issued by the Nuclear Regulatory Commission, or ~~which~~ meets the applicable criteria specified in 10 CFR 71, 2001 ~~1996~~ Edition, published ~~October 1, 1996,~~ January 1, 2001, incorporated by reference and on file with the Agency and the Office of Secretary of State, shall have, maintain, and execute the quality assurance program specified in 10 CFR 71. This incorporation by reference contains no future editions or amendments

B. ~~Each licensee shall establish, maintain, and execute~~ In addition to the requirements in subsection (A) for a quality assurance program, ~~as described in 10 CFR 71 to~~ a licensee shall verify by procedures such as checking or inspection, that deficiencies ~~and~~ or defective ~~material/equipment~~ material or equipment relative to the shipment of packages containing radioactive material are promptly identified and corrected.

C. Before the first use of any Type B packaging, a licensee shall obtain approval of its quality assurance program by the Agency.

D. A licensee shall maintain sufficient written records to demonstrate compliance with the quality assurance program. Records of quality assurance pertaining to the use of a Type B package for shipment of radioactive material shall be maintained for three years after the package is used for a shipment.

R12-1-1508. Advance Notice of ~~Transport of~~ Nuclear Waste Transportation

A. No change

B. No change

1. No change
2. A description of the nuclear waste contained in the shipment as required by 49 CFR 172.202 and 172.203(d), 2001 ~~1995~~ Edition, published October 1, 2001 ~~1995~~, incorporated by reference and on file with the Agency and the Office of Secretary of State. This incorporation by reference contains no future editions or amendments.
3. No change
4. No change
5. No change
6. No change

C. No change

D. No change

NOTICE OF FINAL RULEMAKING

TITLE 17. TRANSPORTATION

CHAPTER 4. DEPARTMENT OF TRANSPORTATION TITLE, REGISTRATION, AND DRIVER LICENSES

PREAMBLE

1. Sections Affected — **Rulemaking Action**

R17-4-407 — Repeal

2. The statutory authority for the rulemaking, including both the authorizing statute (general) and the statutes the rules are implementing (specific):

Authorizing statute: A.R.S. § 28-366

Implementing statutes: A.R.S. §§ 28-924, 28-925, 28-926, 28-939, 28-952, 28-958, 28-964, 28-982, and 28-983

3. The effective date of the rules:

May 12, 2003

4. A list of all previous notices appearing in the Register addressing the final rule:

Notice of Rulemaking Docket Opening: 8 A.A.R. 4805, November 15, 2002

Notice of Proposed Rulemaking: 8 A.A.R. 5071, December 13, 2002

5. The name and address of agency personnel with whom persons may communicate regarding the rulemaking:

Name: Troy Walters, Rules Analyst

Address: Administrative Rules Unit
Department of Transportation, Mail Drop 507M
3737 N. 7th Street, Suite 160
Phoenix, AZ 85014-5079

Telephone: (602) 712-6722

Fax: (602) 241-1624

E-mail: twalters@dot.state.az.us

Please visit the ADOT web site to track progress of this rule and any other agency rulemaking matters at www.dot.state.az.us/about/rules/index.htm.

6. An explanation of the rule, including the agency's reasons for initiating the rulemaking:

The agency has requested the Section be repealed as it has been determined that the rule is duplicative of the provisions prescribed in A.R.S. §§ 28-924, 28-925, 28-926, 28-939, 28-952, 28-958, 28-964, 28-982, and 28-983.

7. A reference to any study relevant to the rule that the agency reviewed and either proposes to rely on in its evaluation of or justification for the rule or proposes not to rely on in its evaluation of or justification for the rule, where the public may obtain or review each study, all data underlying each study, and any analysis of each study and other supporting material:

The agency did not rely on any study in this rulemaking.

8. A showing of good cause why the rule is necessary to promote a statewide interest if the rule will diminish a previous grant of authority of a political subdivision of this state:

Not applicable

9. The summary of the economic, small business, and consumer impact:

Motor Vehicle Division is claiming exemption under the provisions of A.R.S. § 41-1055(D)(3). The only foreseen economic impact of repealing R17-4-407 is clerical costs involved in formal rulemaking. Repeal of this rule decreases agency monitoring, reporting, and enforcing burdens required of effective administrative rules.

10. A description of the changes between the proposed rules, including supplemental notices, and final rules (if applicable):

Not applicable

11. A summary of the comments made regarding the rule and the agency response to them:

The agency received no comments on this rulemaking.

12. Any other matters prescribed by statute that are applicable to the specific agency or to any specific rule or class of rules:

Not applicable

13. Incorporations by reference and their location in the rules:

None

14. Was this rule previously made as an emergency rule?

No

15. The full text of the rules follows:

TITLE 17. TRANSPORTATION

CHAPTER 4. DEPARTMENT OF TRANSPORTATION TITLE, REGISTRATION, AND DRIVER LICENSES

ARTICLE 4. DRIVER LICENSES

Section
R17-4-407. ~~Motorcycle safety equipment~~ Repealed

ARTICLE 4. DRIVER LICENSES

R17-4-407. ~~Motorcycle safety equipment~~ Repealed

~~**A.** Definitions -- The words and phrases when used in these rules shall have the meanings respectively ascribed to them.~~

~~1. "Commission" means the Arizona State Highway Commission.~~

~~2. "Department" means the Highway Department of this state acting directly or through its duly authorized officers and agents.~~

~~3. "Superintendent" means the Superintendent of the Motor Vehicle Division of the Arizona Department of Transportation.~~

~~4. "Motorcycle" for the purpose of this rule is defined as any motor-driven vehicle having a seat or saddle for the use of the rider and designed to travel on not more than 3 wheels in contact with the ground but excluding tractors and vehicles on which the operator and passengers ride within an enclosed cab in accordance with the standard established by the United States Department of Transportation.~~

~~5. "Handrails": A device adequately mounted on the vehicle, passenger seat, fender or frame, to ensure safety of the passenger.~~

~~6. "Footrest or foot pegs": A device adequately mounted on each side of the frame of the vehicle, to ensure safety of the passenger.~~

~~7. "Endorsement": Written consent or license, on the back side of the applicant's operator or chauffeur license.~~

~~**B.** Applications:~~

~~1. An applicant for a motorcycle or motor-driven cycle license shall be at least 16 years of age.~~

~~2. An applicant must pass a written test, eye test, same as for operator and chauffeur, and a skill or driving test with motorcycle.~~

3. An applicant's current operator or chauffeur license will be endorsed to permit operation of a motorcycle or motor-driven cycle.
4. An "Instruction Permit" shall not be valid for use on any highway, street, road or other right of way designed for vehicular travel except when traveling to and from a driver license service office for the purpose of taking the skill or driving test with a motorcycle.
5. An endorsement for a motorcycle license shall be valid until the expiration date of the applicant's current operator or chauffeur license.
6. Applicants who do not hold a valid Arizona operator or chauffeur license and are not under suspension or revocation as described under A.R.S. § 28-446 shall be issued a new motorcycle license.

C. Suspension, revocation, cancellation. Suspension, revocation, cancellation shall be applicable to a motorcycle licensee the same as operator and chauffeur licenses.

D. Locations for testing. Applications and testing for motorcycle licenses or endorsements will be processed in all Arizona counties and will be issued on designated dates and times as established by the Superintendent.

E. General provisions:
1. The operator and passenger of a motorcycle or motor-driven cycle shall, at all times while operating or riding on such motorcycle or motor-driven cycle, wear a protective helmet on his head in an appropriate manner safely secured. The operator and passenger of a motorcycle or motor-driven cycle shall also wear protective glasses or a transparent face shield of a type approved by the Commission unless the motorcycle or the motor-driven cycle is equipped with a protective windshield.
2. A motorcycle and motor-driven cycle shall be equipped with a rear-view mirror, seat and footrests for the operator in addition to regular equipment required for registration. Any motorcycle or motor-driven cycle operated with a passenger shall be equipped with seats, footrests, and handrails for such passenger.
3. Handlebars rising more than 15 inches above the level of the driver's seat or saddle or a motorcycle or motor-driven cycle are prohibited.

F. Specifications for glasses, goggles, transparent face shields, windshields and protective helmets:
1. Glasses or goggles:
   a. A device consisting of glass or plastic eye pieces or eye cups worn over the eyes and held in place by a headband or temple piece for protection of the eyes and eye sockets.
   b. Shall be approved by the Commission only if they meet requirements established for head, eye and respiratory protection, specifically that portion applicable to the following type of eye protection devices:
      i. Goggles, eye cup (except welders and cutters)
      ii. Glasses, metal or plastic frame
      iii. Goggles, flexible fitting
      iv. Glasses, plastic shield.

G. Face shield:
1. A device attached to a helmet which covers the wearer's face to a point of approximating the top of the nose for the purpose of providing protection of the eyes against flying objects, dust glare or a combination of these hazards.
2. The shield must be adequately supported, as a snap-on or flip-up attachment to the helmet.
3. The shield covers the face both front and sides, from the leading edge of the helmet above the eyes to a point at or below the top of the nose.
4. The edge of the shield is smooth and, if beveled, it must be dull finished.
5. Shall be approved by the Commission only if they meet the established requirements.

H. Windshield:
1. A device mounted on a 2-wheeled motorized vehicle forward of the rider designed to deflect wind and/or small flying objects from the face and body of the rider.
2. Shall be approved by the Commission only if the visual material meets the specifications of the United States of America Standards Institute, No. 26.1-1966.

I. Protective helmet:
1. A covering device primarily intended to protect the upper part of the wearer's head against a blow.
2. Every person operating a motorcycle or riding as a passenger on a motorcycle or in a side car attached to a motorcycle shall wear protective head gear, with a suitable retaining device in position, designed and manufactured to protect at least the area of the wearer's head above a reference plain 2.36 inches (60 MM) above and parallel to a plain defined by the level external ear openings and the lower rim of the eye openings against rapid deceleration upon impact.
3. Effective January 1, 1969, such protective head gear shall be labeled by the manufacturer or its duly authorized agent on the helmet with legible letters or numbers indicating the manufacturer's name and/or number.
4. The Commission will approve only those helmets that are designed and constructed so as to meet the requirements of the United States of America Standards Institute, No. Z90.1-1966.
5. The Commission shall compile and publish a list of glasses, goggles, transparent face shields, windshields and protective helmets approved by them as meeting the provisions of A.R.S. § 28-964 and of this rule.

~~**J.** Plates - registration. All operators of motorcycles or motor-driven cycles shall display the license plate at the rear of the motorcycle and have in their possession the registration to the cycle they are operating on the highway.~~

NOTICE OF FINAL RULEMAKING

TITLE 20. COMMERCE, BANKING, AND INSURANCE

CHAPTER 5. INDUSTRIAL COMMISSION OF ARIZONA

PREAMBLE

1. Sections Affected **Rulemaking Action**

R20-5-628 New Section

2. The statutory authority for the rulemaking, including both the authorizing statute (general) and the statutes the rules are implementing (specific):

Authorizing statute: A.R.S. § 23-405(4)

Implementing statute: A.R.S. § 23-410

3. The effective date of the rules:

March 11, 2003. To better preserve the safety and health of the public, the Division is proposing an immediate effective date. The rulemaking will preserve public safety and health by the elimination of hazards associated with transporting compressed air or other gases in Polyvinyl Chloride (PVC) Piping.

4. A list of all previous notices appearing in the Register addressing the final rule:

Notice of Rulemaking Docket Opening: 8 A.A.R. 1838, April 12, 2002

Notice of Proposed Rulemaking: 8 A.A.R. 3697, August 30, 2002

5. The name and address of agency personnel with whom persons may communicate regarding the rulemaking:

Name: Patrick Ryan, Assistant Director

Address: Division of Occupational Safety and Health
Industrial Commission of Arizona
800 W. Washington, Suite 203
Phoenix, AZ 85007

Telephone: (602) 542-1695

Fax: (602) 542-1614

E-mail: pat.ryan@osha.gov

6. An explanation of the rule, including the agency's reasons for initiating the rule:

The Division of Occupational Safety and Health is proposing prohibiting the use of Polyvinyl Chloride (PVC) Piping for the transportation of compressed air and other gases in above ground installations. The use of PVC Piping in above ground installations presents a serious hazard to employees, because when PVC Piping systems fail or become damaged, they send sharp pieces of piping material through the air with great force and velocity. In the past, the Division has issued citations to employers who have used PVC Piping for the transportation of compressed air in their facility. The basis of the citation was the employer failed to follow manufacturer's recommendations and industry safe practices to protect employees from being seriously injured. The Division currently issues citations to employers who use PVC Piping for the transportation and distribution of compressed air, citing the "General Duty Clause" A.R.S. § 23-403(A). The Division believes employers would be better informed about the hazards associated with using the PVC Piping by a more specific rule prohibiting its use.

7. A reference to any study relevant to the rule that the agency reviewed and either relied on in its evaluation of or justification for the rule or did not rely on in its evaluation of or justification for the rule, where the public may obtain or review each study, all data underlying each study, and any analysis of each study and other supporting material:

None

8. A showing of good cause why the rule is necessary to promote a statewide interest if the rule will diminish a previous grant of authority of a political subdivision of this state:

Not applicable

9. The summary of the economic, small business, and consumer impact:

The Arizona Division of Occupational Safety and Health has determined that this new rule will have minimal impact for all affected industry groups and has determined the new rule to be economically feasible for all industries including small business. Cost and benefit analysis of these amendments are available for inspection, review, and copying at the Industrial Commission of Arizona, Division of Occupational Safety and Health, 800 W. Washington, Phoenix, AZ 85007.

10. A description of the changes between the proposed rules, including supplemental notices, and final rules (if applicable):

The agency made minor, non-substantial syntactical and grammatical changes upon recommendation by the Governor's Regulatory Review Council staff.

11. A summary of the comments made regarding the rule and the agency's response to them:

One commenter wanted to know whether the rule was going to affect the state's plumbing code and whether gas stations could continue to use PVC piping to run compressed air to areas near gas pumps. The Division's understanding is that this rule does not conflict with the state's plumbing code. The rule does not affect gas station's use of PVC as the Division understands that this PVC piping is underground.

12. Any other matters prescribed by statute that are applicable to the specific agency or to any specific rule or class of rules:

Not applicable

13. Incorporation by reference and their location in the rules:

None

14. Was this rule previously made as an emergency rule?

No

15. The full text of the rule follows:

TITLE 20. COMMERCE, BANKING, AND INSURANCE

CHAPTER 5. INDUSTRIAL COMMISSION OF ARIZONA

ARTICLE 6. OCCUPATIONAL SAFETY AND HEALTH STANDARDS

Section
R20-5-628. ~~Reserved~~ Safe Transportation of Compressed Air or other Gases

ARTICLE 6. OCCUPATIONAL SAFETY AND HEALTH STANDARDS

R20-5-628. ~~Reserved~~ Safe Transportation of Compressed Air or other Gases

An employer shall not use Polyvinyl Chloride (PVC) piping in a place of employment for the transportation and distribution of compressed air or other compressed gases in an above-ground installation.